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ABSTRACT

The conference proceedings include 22 papers or workshop session summaries from the conference on the gifted. Some of the topics discussed are educational evaluation of the social worth of programs, economic accountability, the role of parent organizations, communicating with the state legislature, encouraging creativity in learning, describing highly gifted students, providing qualitatively different learning experiences, identification of creative potential, and developmental stages (after Erikson and Piaget). Other subjects covered include gifted minority students, individualized instruction and learning centers, educating teachers of the gifted, creative writing ideas, and various other curriculum suggestions. (KW)

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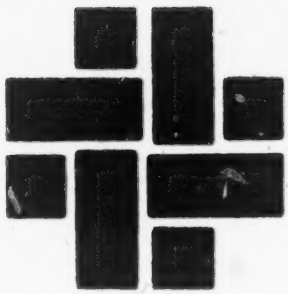
"The Challenge of Accountability In Programs for the Gifted"



1971
Ninth Annual Conference Proceedings

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California Association for the Gifted

Edited by: ALFRED L. LAZAR AND
DONALD K. DUNCAN

MONTEREY PENINSULA COLLEGE
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1971

Proceedings of Ninth Annual Conference

California Association for the Gifted

Theme:

"The Challenge of Accountability In Programs for the Gifted"

EDITED BY
ALFRED L. LAZAR AND DONALD K. DUNCAN

FEBRUARY 26-27, 1971

MONTEREY PENINSULAR COLLEGE
MONTEREY, CALIFORNIA

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Preface

The need and value of publishing conference proceedings will always be a constant issue for debate by members of any democratic and dynamic organization. The rationale for the publishing of the proceedings by the California Association for the Gifted are several in nature. The nature of these reasons extend from the realization that not all members can attend the annual meeting, and in the case of those that do attend, it is difficult for them to visit all the sessions, which results in the loss of many ideas and experiences. It is felt that the publishing of the proceedings can serve the membership to some degree in reducing the adverse effects on communications for the cited reasons, but in addition, it allows our organization to share and exchange ideas with other individuals or groups interested in the education of the gifted and creative person.

Credit for these proceedings goes to the main speakers and workshop chairmen that prepared summaries and reports of the activities or presentations in their sections. I would like to thank Al Lazar for assisting in the editing and to Delores Blanchard for typing the final manuscript and preparing the illustrations.

Finally, I would like to extent my thanks to all individuals, too many in number to name that made our 1971 Annual Conference a great success, of which these proceedings are the final product.

December, 1971

DON DUNCAN,
President

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The Conscience of Educational Evaluation

by

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"Those persons who talk most about human freedom are those who are actually most blindly subject to social determination, inasmuch as they do not in most cases suspect the profound degree to which their conduct is determined by their interests. In contrast with this, it should be noted that it is precisely those who insist on the unconscious influence of the social determinants in conduct, who strive to overcome these determinants as much as possible. They uncover unconscious motivations in order to make those forces which formerly ruled them more and more into objects of conscious rational decision."

KARL MANNHEIM, *Ideology and Utopia*, 1936

It's always exciting to come to California! We people in Illinois spend a lot of time simply studying what people in California do. Having no oceans, no mountains, no ski slopes, voyeurism is one of our main entertainments. Sometimes, however, this indulgence leads us into evil thoughts. And some of these thoughts I wish to pursue tonight. If, within the next thirty minutes I do not impugn the motives of everyone here, including myself, I shall be greatly surprised. It is the custom in conferences like this to say some nice words about the subject, tell a few jokes, and in general, make everyone, including the speaker, feel good about discharging his duties. Tonight I am going to try something a little more pugnant in the hope it will have a more lasting effect.

In recent years many good papers have been written on educational evaluation, several by members of our group — The Center for Instructional Research and Curriculum Evaluation (acronym CIRCE). One of the best was by Bob Stake in which he outlined the many kinds of data useful for evaluation purposes and suggested ways of processing those data. The liberating impact of this paper can be judged by the reaction of a fellow evaluator who, carried away in a frenzy of orgiastic excess, exclaimed, "Stake has opened the data matrices!"—one of the real highpoints of excitement in the evaluation world.

The title of Stake's paper was "The Countenance of Educational Evaluation." The title of my paper tonight is "The Conscience of Educational Evaluation," which reflects a somewhat different perspective. I wish to look at some unpleasant facts, to examine evaluation from a different focus.

UNCONSCIOUS MOTIVATIONS

The first observation I wish to make is that there is no real demand among teachers and administrators for evaluating their own programs. To evaluate kids, yes, we cannot live without that; but to evaluate ourselves and our own programs—no. Sometimes in that strange ideology with which we disguise our motivations and cover our tracks, we educators convince ourselves that we would be overjoyed to receive good data about our teaching and our educational programs. Well, try it sometime. Try evaluating a program. On simply asking teachers their goals (not in behavioral terms) we have had them 1) break into tears, and 2) throw chalk across the room. Rare events but not unrepresentative of teacher attitudes towards evaluation.

After all, what does a teacher have to gain from having his work examined? As he sees it, absolutely nothing. He is exposing himself so that administrators and parents can take potshots at him. He risks damage to his ego by finting out he is not toing his job as well as he thinks he is. Perhaps worst of all, he risks finding out that his students do not really care for him—something a teacher would rather not know. The culture of the school offers no rewards for examining one's behavior—only penalties. Since there are no punishments for not exposing one's behavior and many dangers in doing so, the prudent teacher gives lip-service to the idea and drags both feet—a custom made venerable by all our professions.

And this is not so strange, is it? Do we have any serious evaluations of lawyers or doctors or cabdrivers? That there is no such demand for evaluation is a corollary of a broader principle: No one wants to be evaluated by anybody at any time. Evaluate an evaluator's work and see how he reacts.

As recently as a year ago I believed in what might be called the "good instrument" assumption. If one could develop an instrument easy to adminster, that was non-threatening to the teacher, that spoke in terms meaningful in the teacher's world (unlike most psychometric instruments that measure things like "convoluted neurasthenia"), that was cheap enough for even an administrator to purchase, the knot of evaluation would be partly unraveled. In fact, last year CIRCE developed two such instruments. One could be administered in twenty minutes, measured things that teachers at least talk about, and cost about six bucks a class. The other was so non-threatening that the teacher filled it out herself and sent it home with her students—simply a description of what was going on in class. The response to these instruments was considerably less than overwhelming. Teachers reacted as I've indicated: What have I to gain? Why do this extra work? Why set myself up for someone to shoot at? Why supply material for somebody's book? (Within this syndrome, you understand, is a deep-seated and well-founded distrust of university professors. Public school personnel understand much better than professors that the con-

cern of the university is to help itself and not the public schools.)

Nonetheless the instruments have been used somewhat. Although there is no demand for evalution, there is a demand for personal attention and for someone to talk to. Teaching is a lonely profession and if the instruments (or any innovations) are propogatet by personal contact, some people will use them—at least as long as the personal contact lasts.

Among school administrators the low priority assigned evaluation is well exemplified in budgets for educational programs. School districts spend no money for evaluation. State and federal programs typically allocate very little—usually a few percent of the total budget. When budgets are cut (as they always are) evaluation funds are the first to go. Even where as much as ten percent of the budget has been set aside for evaluation, it is difficult to get districts to spend the money for the purpose designated. This anti-evaluation attitude is deeply embedded in the school structure.

At the higher governmental levels the situation is only slightly different. Once when I was harping about the U.S. Office of Education evaluating some of its programs a high OE official told me, "Look. In order to sell these programs to the Congress we have to promise them everything good that can possibly accrue for the next ten years. What's an evaluation going to do? No matter how good the program, it's going to show that we are not delivering on all we promised." Generally speaking, in this country the claims for education have been so extravagant that there is no hope of living up to the promises. But without evaluation who's going to know the difference?

Why then have you brought me here to talk about accountability and its step-brother evaluation, and why have I been directing a large evaluation project over the last few years? There are, I think, a few important exceptions to the general rule that no one wants to be evaluated. Evaluation becomes desirable when you think you are doing well but feel unappreciated; when you are in serious trouble; or when someone with authority over you insists that you be evaluated. For example, the large-scale evaluation of the Illinois Gifted Program got underway only when it was clear that the program was in deep trouble in the state legislature and even then only when higher authorities put on strong pressure to have it evaluated. State officials will confess that this evaluation was a novel and anxious event.

Under those pressures the gifted personnel initially submitted with the enthusiasm of a chloroformed moth being pinned to a mounting board. Later they warmed up when it appeared the evaluation might have some value for them. As it turned out, the evaluation has played an instrumental role in saving the program, but at the beginning no one knew that. By no means did the Ilinois people volunteer themselves for examination.

As you know, the troubles that beset most programs are economic: they need money. The contest for funds at the national level and the rising tax rates at the state level ensure that educational enterprises are going to come under increased scrutiny. Accountability is a means of lassoing the wild stallion of educational spending by groups competing for the monies.

A related set of forces are the interest groups who want one thing or not another within the school. For example, one of the Illinois independent study programs has been under attack from conservative elements on the local Board of Education. Forces in favor of the program launched a counter attack. Right now there is an oneasy stalemate with the Board having removed the principal of the school, but with the independent study program still operating. With neither side having decisive political strength, words of evaluation are in the air. Conceivably, either side may use data to bolster its case, but a true resolution of the problem will come when one side gains the upper hand politically.

Often evaluation activities are spurred by groups who feel they have been short-changed by the schools. In today's atmosphere this could be almost anybody. Thus we have the NAACP audit of Title I, ESEA, funds, which revealed interesting irregularities in their disbursal. The point is that evaluations are not inspired by the heart-felt need of professionals to try to do a better job (frequent though that rhetoric is); rather the impetus is usualy traceable to a pressure group that has something specific in mind.

EVALUATIONS FOR DEFENSE AND FOR ATTACK

What kind of evaluation results from these dynamics? Well, we get evaluations for defense and evaluations for attack. Most Office of Education evaluations are a good example of the former. Under pressure the OE officials tell the Congressional aides, "Yes, we will evaluate this program if we get the money." So into the OE guidelines goes a requirement for evaluation. It is a symbolic gesture and is interpreted as such by the fund recipients. They respond with a token evaluation which says their project is doing fine. Everyone is happy. Paper begets paper.

Now some people fault these evaluations because of poor scientific methodology. But that is not the primary problem. One might get valuable information by asking his cousin or by other "unscientific" means. The problem is in the intents: the evaluations were never **intended** to produce relevant information. Rather they were meant to protect the Office of Education from hostile forces in the Congress and the Bureau of the Budget. Occasionally the Office is surprised, as it was with last year's Title I evaluation.

On the other side are the evaluations for attack. Generally these are better done because they much carry the burden of trying to change things rather than defending an entrenched position. A very recent example is the Carnegie report by Charles Selberman, entitled **Crisis in the Classroom.** This evaluation obviously lays the groundwork for a liberal assault upon the educational establishment. It attacks the "mindlesness" and restrictiveness of the public schools and takes as its positive model the "open classroom"' as exemplified by the English infant schools. You have heard of the report because it has been given much coverage by the so-called liberal press. It was sponsored by the Carnegie Fountation, often associated with liberal causes in education.

You will also remember that in the reaction following Sputnik came a series of reports authored by James Conant, also sponsored by the Carnegie Foundation. These reports severely criticized provisions for the academically talented and helped put many of your programs into existence.

Occasionally we also get evaluation for defense and attack simultaneously. Here is an excerpt from the University of Illinois student newspape :

"POLI SCI INVESTIGATIONS START

> The University political science department will be undergoing an evaluative investigation this week as initiated by the College of Liberal Arts . . . The investigation is the first of its kind, although the political science department evaluation wil not be the only one conducted this year in the colege . . .
>
> Sources in the political science department maintain, however, that the investigation was initiated by Chancellor J. V. Peltason . . . Peltason initiated the evaluation, according to sources within the department, because certain department members' political activities have been 'a thorn in his side' for at least two years."
>
> Daily Illini, December 10, 1970

What might be interpreted as an evaluation attack on the political science department on one level might be construed as an evaluation for defense of the university on another. Some very angry state legislators are breathing hard down the neck of the university over last Spring's strike activities, which featured prominent performances by members of the political science department.

In case you haven't guessed, who sponsors and pays for the evaluation makes a critical difference in the eventual findings. And who conducts the evaluation is equally important. For example, knowing that the evaluation of the University of Illinois political science department is to be conducted by a committee of three political scientists from other campuses might give you a clue to the outcome of the evaluation. Certainly the outcome will be different than if the committee were comprised of three legislators. Even finer predictions could be made if we knew the relationships between these three professors and the principals in the case, e.g. how the evaluators were chosen. This is a gross example, but if you knew how much difference could result from one evaluator doing a study rather than another, it would make your teeth hurt.

THE CONTEXT OF VALUATION AND THE CONTEXT OF JUSTIFICATION

Now this is quite a mess, is it not? If you have been following these arguments, you must believe that evaluation is a branch of sophistry. And, judging from the number of times I've heard comments like, "Well, you can prove anything with statistics," the feeling is fairly widespread. Formal evaluations do arise from political motivations and reflect the biases of their origins. Whom can you trust if you can't trust an evaluator?

But this is not an entirely new problem in human knowledge. Thoughts always arise from obscure and suspect origins: from metaphors, from dreams, from all forms of illogic. Quite often from the most perverse attempts at self-serving. Such is the very substance of creativity. For all we know, the creative person may simply be one who has leaky neurons. Yet, whatever the genesis of these thoughts, it is often possible to determine the worth of an idea.

Philosophers of science have found it useful to distinguish between the "context of discovery" of an idea—the psychological background from which the idea arose—and the "context of justification" —the publicly determined worth of the idea. (Scheffler, 1967). Even though we do not think in syllogisms, or any formal logic, it is often desirable, perhaps necessary, to construct a logically idealized version of thinking so that the idea may be critically examined.

Analogously, in formal evaluation it may be useful to distinguish between the "context of valuation" and the "context of justification." The "context of valuation" involves the basic value slant derived from the genesis of the evaluation, and includes all those motivations, biases, values, attitudes, and pressures from which the evaluation arose. The "context of justification" involves our attempt to justify our findings. There are many means of justifying the findings, but in formal educational evaluation this usually means using the logic and methodology of the social sciences (predominantly psychology) to collect and analyze data. In fact, Scriven (1967) defines evaluation as a methodological activity which consists of gathering and combing performance data to yield ratings and in justifying the data collection procedures, the weighings of the data, and the goals themselves. (Most operating definitions of evaluation set it down squarely within the "context of justification.")

Such "scientific" procedures do not **guarantee** that the findings are "true," but they do promise that biases originating from the "context of valuation" will be greatly reduced. Hence we get concepts like "control group" and "random sampling," which when stripped down are pretty much common sense attempts to eliminate one form of bias or another. (In passing it should be noted that in addition to the non-argumentative logic of science, argumentative forms of logic are available for justifying findings. One example is the methodology of our court system to which we entrust our property and our lives. This raises the possibility of other legitimate forms of justification.) But in the main we rely on the institutionalized methods of science to exercise the demons of subjectivity.

Thus utilizing scientific methodology in the "context of justification" enables us to justify findings arising from the "context of valuation." So far, so good. But the problem is not quite so tasily disposed of. As much as evaluators love to appear in white lab coats and tell their clients that this brand of individualized instruction will decrease tooth decay (and as much as it comforts clients to have them do so), life is not so simple. Many leading scientists tell us that even our scientific "approaches"—our models and theories, the way we collect data, and the way we present data—are ultimately based.

After all, the communities of men who establish scientific canons are subject to the same pressures as the rest of us. In educational research Glass (1968) has pointed out that our most respected analytical tools bear the limitations of their agricultural origin and are in many ways inadequate for understanding the educational process. In fact, there can be no value-free social research. All research must proceed from initial valuations of some kind. So if being "objective" means being totally free from bias, there can be no "objective" research. Try as we will, there is no escape from the "context of valuation."

Gunnar Myrdal, the Swedish social scientist, contends that it is not necessary for social research to meet the impossible condition of being value-free in order to be useful to us (1969). All that is important is that the scientist reveal and make explicit the valuations on which his research is based. It is the hidden, unseen valuation which is damaging and which leads to opportunuistically distorted research findings. For the covert valuations allow us to pursue our base interests at the expense of proper justification. We trick ourselves as well as others.

Making explicit one's valuations demonstrates that the evaluator is aware of them, forces the evaluator to account for them, and exposes them for whatever they may be. Ideally one would use alternative sets of valuations to evaluate a program. Seldom are resources available to do so. Practically one usually chooses one set of valuations and puts his meager resources into that. But one can try to see that the valuations are neither hidden nor arbitrary. They should be relevant and significant to the audiences involved. According to Myrdal, only in this way can the evaluation be as **fair** and **honest** as possible.

An example: When I began to evaluate the Illinois Gifted Program I was not a neutral observer. I was not about (nor is anyone likely) to invest much time and effort in a project about which he has no feelings. Early in the project it was suggested by several people that we set up a massive testing design, using standardized achievement tests to measure the outcomes of the state program. That was the "normal" thing to do and in fact would have been done by a "neutral"' evaluator who was unwilling to spend much time. I knew in advance because of the nature of achievement tests and technical problems like regression effects that there would be no significant difference in favor of gifted programs.

Most importantly, by familiarity with the program I knew that increasing achievement was not the main intent of the state and that the major efforts of the program had gone into promoting certain kinds of classroom environment—namely higher thought processes and student involvement. So we looked in the area of environmental press measures and, led by Joe Steele, eventually developed an instrument to measure those factors. We measured the program at perhaps its point of greatest strength—that's what I mean by being fair.

At the same time in the "context of justification" we developed this instrument in a rigorous fashion and employed as good a sampling design as we were able—by no means did we provide a "set-up" for the gifted people. Where the program did turn out badly we reported it. Through familiarity with the program we also knew where the weakest points lay. We knew that many districts were taking state gifted funds and doing absolutely nothing for the gifted. So we developed instruments to measure that, too. That's what I mean by being honest.

We reported both favorable and unfavorable data to people in the program, to people with control over the program and to state legislators, saying that in our opinion the good outweighed the bad. Although we were conscious of "context of valuation" problems at the time, even stating in the original rationale the intention of making all value assumptions explicit, in retrospect I see places where we did slipshod work because we were often influenced by our prior valuations. For example, we intended collecting some achievement scores as well as the other type of data, yet succumbed to our own prior valuations by placing such data so low on our priority list that we never did it.

In looking at our earlier work I can also see all sorts of hidden valuations and implicit assumptions that resulted in systematic errors. Perhaps most important, we put many more resources into collecting data that might be positive rather than negative. For example, we never investigated the elitism that might arise from gifted programs. As Myrdal suggests, ignorance, like knowledge, is not random but is opportunistically contrived. We don't know what we don't want to know. Nonetheless, all these problems notwithstanding, I think we were as fair and honest as one is likely to be, though our work can certainly be criticised on these grounds.

THE CONTEXT OF PERSUASION

There is one final check on our own valuations and biases—the biases and interests of other people. For you might note that although the State Legislature maintained the funding of the Illinois Program at its previous level, influenced by our evaluation data, they did not significantly increase funding in certain areas as we suggested. Much to the chagrin of both evaluators and parents, people do not always do what you tell them to do. This final argument I will pursue under the label the "context of persuasion." For, my friends, producing data is one thing; getting it used is quite another.

In fact, evaluation data will be utilized or ignored mainly to the extent that they are of advantage to the interpreting group. On the national scene you will remember the Kerner Commission on Civil Disorders which said that the United States has a system of institutionalized racism. President Johnson said the report looked interesting, but didn't find time to read it. More recently Governor Scranton handed President Nixon a report claiming that a major reason for campus unrest was the lack of moral leadership in the White House. Mr. Nixon did read the report and said, gee whiz, there are lots of people responsible for moral leadership, like teachers and preachers. President Nixon did not wait to read the commission report on obscenity and pornography. He rejected the findings out of hand without contaminating himself with the data. (Evidently not everyone felt that way. An illustrated copy of the Pornography Report was a best seller at $12.50.) The examples I have used are all hot political issues, but I have here a recent clipping from the Chicago Daily News:

"White House Stalls Data on Consumer Product Tests"

"The White House is delaying release of an order to government agencies to publish data on the thousand of products they test . . . including brand names of everything from computers to toilet paper. The order is based on a year-long study recommending that (government agencies) publish for the first time results of tests they make on products for government purchase . . . White House sources say that pressures from business groups . . . have postponed its release indefinitely. The report, prepared by representatives of 21 agencies under Mrs. Knauer's direction, is weaker than consumer groups had hoped, because it concentrated on positive data. Groups such as Consumers Union had sought release of all information, including negative facts on which products failed tests and why. But the White House report . . . states "the release of . . . adverse test data . . .would not contribute much in the way of useful data to consumers . . . "

Now I submit that toilet paper is not a hot political issue—but that evaluation is. Evaluation is a political act because it involves an allocation of resources, which is a euphemism, for some people gain and some people lose. Little wonder that evaluation data are stringly filtered in the light of what the results mean for the interpreting group. Early in the Illinois evaluation we were amazed and confounded at the way our findings were used. One group would pick up one finding and use it to press its own position, ignoring the rest of the findings. Another would take the same finding to justify maintaining the status quo. In the Legislature the part of the program we found most effective for changing teacher behavior was severely cut because it was labeled "fellowships" and fell under the ire of legislators during the spring riots.

Later on we began to understand this phenomenon and use it to our advantage, which brings me to the last point of the paper—the "contest of persuasion." We all live in a very concrete world, in a world of metaphors and anecdotes, of strong feelings and personal relationships. Even evaluators live in that world. When I make decisions for myself it is on the basis of the concrete world, not the abstract one. The kind of information a person can act on must be meaningful in terms of personal experience. And that means appeals to metaphors, anecdotes, and self-interests.

Evaluators are not very good at translating abstract data like correlation co-efficients into concrete experience for their audience. The more formalized the operations in the "context of justification," the more difficult it is to make the findings meaningful in personal terms. In fact, the very methods that increase our generalizing powers lead us away from concrete meanings into abstract relationships. There is a natural antipathy between personal meaning, which leads us to action, and abstract data, which leads us away. Communicating scientific findings is not a matter of understanding research terminology; it is a matter of finding correspondence within the audience's personal experience that will register the findings. Every person has a vocabulary of action within his mind; only when evaluation data roughly correspond to his internal vocabulary, does he respond to them.

Political lobbyists have been most effective in understanding and using the vocabulary of legislators. As one state legislator told me, "Man, I don't need another report. I've got sixty of those in my office. Don't tell me about statistics and all that stuff. I believe you. Tell me what you found out." In this case, personal credibility was his guide to action. On another level the Silberman report I mentioned earlier is a good example of persuasive writing. In 525 pages there are only two lines referring to row data were collected. Though he does refer to research studies, the bulk of the report is composed of anecdotes. And it is persuasive. Ordinarily though, evaluators greatly neglect the "context of persuasion." However, it seems to me, that the producers of the data **must** assume some burden in seeing their information is properly understood. Simply wrapping the baby up warmly and leaving him on the doorstep at midnight does not absolve one of responsibility.

So there it is—a thumbnail sketch of the problems of trying to determine the social worth of educational programs: valuation, justification, persuasion; values, thought, action; morality, knowledge, power. New problems for education, but perennial problems for society.

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The Dominion of Economic Accountability

by

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Greetings from the Heartland. You expatriates will be sorry to hear that we have had a very mild winter and that everything is well under control. You may know that our most famous expatriate is the good Governor himself—Governor Reagan (or "Dutch" as we used to call him in Illinois). You may not know that the Governor went to a small college in a town about twenty miles outside Peoria. Someone once said that you can't understand Greenwich Village unless you've seen Kansas City. I might add that you can't understand California unless you've seen Eureka, Illinois. One description of the town is that whoever discovered it did not say "Eureka." But the place has now achieved new status since the Governor's great success. In fact, they are going to erect a shrine to him out of the remnants of the very last redwood to be cut down.

Unfortunately, all our celebrities migrate east or west. We have only two left—Mayor Daley and Hugh Hefner. In fact, some people contend that the Mayor and Mr. Hefner are one and the same person. But I don't think it's true. Hefner was a journalism student at the University of Illinois who was expelled for publishing a naughty undergraduate magazine. Of course, as luck would have it, today he is at once the most famous and influential Illini alumnus. On the other hand, Mayor Daley, many years before he became involved in Chicago politics, was a pirate captain on Lake Michigan.

But enough of the biography of famous men. I came to talk about accountability. While recognizing that it may be a passing fad, and that some manifestations are as ephemeral as this meeting, I believe that the idea is going to be around for a while. If for no other reason, it is a way of lassoing the wild stallion of educational spending. Groups competing for funds at the federal, state, and local levels ensure that educational spending will not continue to climb as rapidly as it has in the past. So whatever else accountability may be, it is a way of holding down spending. Although some good may come from it, I am disturbed at the form it is taking.

Perhaps nowhere is this not-so-subtle purpose of the accountability movement more transparent than in gifted education. On the roller-coaster of educational priorities, gifted education is currently down (though it will most certainly rise again on the vagaries of social change). For example, one of the prime motives for evaluating the Illinois Gifted Program was to use the four million dollars it is now spending each year in other places. This purpose was foiled, at least temporarily, because we found so many good results and communicated them to the right people.

But even though collecting relevant data may be essential, maintaining gifted programs is primarily a political problem and demands a political solution. Information does no good unless it is delivered in a politically relevant manner, a topic I touched on last night. Today, rather than discussing the problem of justifying the very existence of gifted programs, I am going to examine the debilitating effects current accountability pressures wreak within the internal structure of such programs.

It has been said in support of accountability that it will result in favorable changes in professional performance "and these will be reflected in higher academic achievement, improvement in pupil attitudes, and generally better educational results." (Barro, 1970). I would contend that accountability will not automatically do good things, that we are already accountable for many things that we do, that being accountable in fact makes our lives miserable in certain ways, and often actually prohibits favorable changes in professional performance and better educational results. For example, college professors are quite accountable for publishing articles, yet one would be hard pressed to show how this arrangement helps, say, the public schools. Similarly public school teacheers are accountable for keeping their classrooms quiet, and I've heard it said that this is an impediment to good teaching.

So when one hears talk about accountability as if it did not now exist and that all good things are going to happen when we get it, one must regard this argument as too simplistic and look more squarely at what is being proposed. It is safe to assume that somebody wants something he is not now getting.

ECONOMIC ACCOUNTABIITY

Not long into any current discussion on accountability, someone always raises the question, "Who is accountable to whom?" Almost invariably the response is that one is accountable to his superior. In fact, most people apparently perceive the society as being a vast hierarchy in which each person is accountable to his boss and his boss is accountable to someone else and so on. In this ubiquitous conception the school district, the society, the world is perceived as being organized like a vast bureaucracy, a gigantic corporation. Accountability is upward. Each person is accountable to the institution.

Nowhere is this better illustrated than in a recent issue of the **Phi Delta Kappan** (December, 1970) devoted to the theme of accountability. Explicitly or implicitly, several articles in the magazine harbor this view. But the apotheosis is the lead article written by a Rand Corporation economist. He proposes that pupil performance measures be given to all the students in a school district. Then, through a series of multiple regression equations, each teacher, each principal, and the superintendent be held accountable for that bit of pupil performance that the analisis attributes to him. Mrs. Smith, for example, is responsible for three percent of verbal reasoning, while Mr. Jones only managed to get in one percent. Presumably Mrs. Smith and Mr. Jones will be differentially rewarded for those contributions. Good girl, Mrs. Smith. Bad boy, Mr. Jones.

The technical and political problems that this approach would encounter are so insurmountable that they will never be overcome. Technically the conditions necessary for employing the satistical analysis cannot be met: none of the current measures are adequate indices of the relevant variables; the variables cannot be made independent of one another; and there is no way of specifying all the critical variables that should be included. The political problems are even more formidable. If the teacher organizations are anything like the rascals I know them to be, they would never allow such a thing.

But I must confess I am intrigued by the prospects of Mr. Jones sabotaging Mrs. Smith's lesson plans so he can pick up a few points on her. Or the kids in eleventh grade algebra organizing to throw the math test and send the despised Mr. Harms into bankruptcy. My mind slips back to those exciting days of comparative anatomy practical exams when the desperately competitive pre-meds would pull the numbered pins from one part of the cat's brain and stick it into another in order to fool their rivals.

Although this particular scheme is not going to be widely employed, this conception of accountability is so widely accepted that I would not be surprised to read in an education newsletter that the superintendent in Lockjaw, California, or Bone Gap, Illinois, having secured a batch of army surplus tests and a slide rule for the business manager to work the regression equations on, has decided to institute the system. (I also can't help remarking that, after years of making the world safe for the American air force, the Rand Corporation is in serious financial difficulty (Newsweek). Let me be the first to recommend to the Rand administrators that they employ this very same technique to determine which of their economists are contributing to their productivity.)

The point I'm trying to make is that discussions of accountability always lead us down this dismal road. In fact, we are so far down the road that it is impossible for many people to even imagine another type of accountability. For the dominant theme today is economic efficiency and its purpose is control—control over pupil behavior, control over staff behavior, control over schooling.

At the risk of over-simplification, let me outline this mode of accountability, which I call economic accountability. It is an economist's view of the world. Basically it presumes that the purpose of education is to supply manpower to other institutions of the society, particularly the economic ones. The skills needed to run the societal machinery can be formulated in specific terms, so educational goals are mandated by technological demands. These goals being specific and set, the job of educators is to maximize these goals. (usually forms of student achievement) with the greatest efficiency possible. Ultimately then the goals of education become economic and the attendant accountability system is economic.

Economic analysis always has to do with maximization of **known** objectives (Brandl, 1970). It provides a descriptive theory of how maximization will happen or a prescriptive analysis of how to get it to happen. Thus we get analytic tools like systems analysis, cost/benefit analysis, PPBS, and performance contracting. Perhaps the technique "par excellence" is regression analysis against a production function, in which the most efficient combination of inputs is related to output.

Now there are serious problems in applying economic analysis to education in a pluralistic society. Where objectives or outcomes are not known, economic theory offers no way of determining them. And where there are competing viewpoints of what education should be doing, the maximizing solution does not even apply. In a pluralistic society like ours, there are irreconcilable differences as to what the outputs of education should be. At best, one can compile a great list of possible outputs and try to relate inputs to them, thus establishing a collage. But this solution doesn't have much practical appeal to administrators who want to make decisions. For example, it would not tell them what would happen if an attempt were made to increase a particular output.

The alternative is to reconcile these differences into a few set goals—which is what I believe the demands for economic accountability are attempting to do. The ultimate form of accountability then is to tighten the system to the point that each person is held personally accountable for his contribution to those few goals—just as the Rand economist suggested. In this scheme students are shaped to prespecified ends, educators are efficient at producing those ends, and education is more closely wired to the economic institutions of the society. The whole social system is more efficient, but the cost is terribly high: it is our cultural pluralism and our humanity. For this mode of accountability reduces to simply this: the individual is accountable to the institutions, but the institutions are not accountable to the individual.

The Dominance of Managerial Education

Inextricably bound to economic accountability is what Thomas Green (1969) calls "managerial" education. The same principle of economic efficiency shapes both the accountability system and the nature of education. Managerial education dominates when the schools are assessed by the utility of their "product" to the dominant institutions of the society. In our society this means that the schools are held accountable for effectively and efficiently meeting the demands for education manpower. To the extent that school credentials become the primary their voracious appetite for technical skills and to the extent that schoo credentials become the primary means of placing people in the structure, managerial education will predominate.

Contrast this with "humanistic" education in which schools are assessed in terms of what they do for people—independent of their contribution to other institutions. The humanistic credo, often expressed as the impossible goal of "developing each individual to his fullest," is the official ideology of most educators. It seeks not to shape the individual to a predetermined end, to some criterion of external utility, but to cultivate independence and individualism.

Yet, according to Green, in spite of this credo, managerial concerns now shape the schools and will increase their dominance substantially over the next two decades. One reason is that each lower educational level must at a minimum prepare its students

for the next higher level and at the top of the pyramid are the graduate and professional schools. which feed into the economic institutions.

Down this road a few decades Green foresees a very high level of managerial education for an elite and a lower level for the majority of people. To a certain extent this has already happened. As we investigated gifted programs across Illinois we found gifted children being educated toward some kind of vocational marketability in the future. In shaping the child toward these distant and pre-specified goals the classes tended to be dull and repressive, often requiring that both teachers and parents exert great pressures on the child in order to get him to perform. The rationale underlying these classes was usually, "This may be painful now, but it will help the child when he wants to get ahead."

Here are some excerpts from one of our case studies, code named "Parchland." First, excerpts from an interview with the teacher, Mr. Harms:

Q: What would you say your major goal is for this particular class?

Mr. Harms: I'd say the major goal is to prepare them for advanced math. Most of the students will probably go ahead and take college work in math as either a science, math or engineering major.

Q: Of today's activities were there any that are especially appropriate for the gifted?

Mr. Harms: Not necessarily, except that I expect them to reproduce the proof while I wouldn't expect the regular class to prove it normally. I assign this class some problems I wouldn't assign the regular class, too.

Q: Could you give me a few more examples of what the students do that are especialy appropriate for the gifted?

Mr. Harms: It's primarily what we do in class discussions. I don't run any special projects for them. This spring they might do something with mathematical instruments, a little field work, use of the transit and so on. It's primarily a matter of acceleration and an enrichment of mathematics. Projects are good, but I feel that in math there really is no substitute for hard work; there just isn't any royal road to mathematic . I'm afraid I probably assign more problems than some teachers do, but even the good students need practice.

Q: How would you describe a successful student in this class?

Mr. Harms: A succesesful student would be one that studies regularly every day, pays attention in class, does well in his tests, and does his homework pretty regularly.

I have some students that ask questions and others that don't. I believe that I like to have them ask questions, but some students have gotten to the place where they get it pretty much on their own and don"t have to ask questions. Others don't ask questions because they're . . . well, they don't.

Q: What does it take to get an "A"?

Mr. Harms: Well, my feeling is you have to be pretty good to get an "A." You have to be an outstanding student, have to almost have an "A" on every test. It depends somewhat on how many tests we have during the quarter, but unfortunately with an "A," you don't have a grade above the "A" to average with one below to bring it up, and so it's a little tough.

The student enthusiasm is extremely low, and, what is rare for a gifted group, there is no humor in the class. Here is a brief excerpt from an interview with Donna, the best student in the class:

Q: What kind of things do you do in this class?

Donna: Mr. Harms will ask if we have any questions over the problems we did, and if we do, he'll discuss them and write them on the board. He'll also give us at least one proof a day. And he kind of yells at us a little because we don't like them. But he keeps saying that we should like them, and we should do them because that's all we're going to do in college.

Q: What kinds of things are you supposed to learn in this class?

Donna: I think we're supposed to learn the generalities with proofs and just learn the technique of proving. He doesn't give us too much busy work, like some teachers do. He is concerned about us knowing proofs because he keeps saying we have to know this for college.

We have to learn how to do the proofs; we are going to have to realize that we can't skip over them. Some of us work the problems and don't have enough time to get to all of them, so we'll do the rest of the problems and skip the proofs. And say we didn't get them because we probably wouldn't get them anyway.

Q: Do you get graded in this class?

Donna: Yes, and I need to be graded so that I have some drive to get me going. It makes me feel real good when I can bring home an "A" and my Dad is real proud of me.

Finally here's part of our interpretation:

Mr. Harm's class is the stereotypical math class that students through the years have come to dislike intensely. Of more than 100 classes examined, this one is lowest on student enthusiasm. The unremitting aim of the teacher is to ingrain the subject matter into the heads of his students so that they can "get ahead" vocationally. This future orientation of the teacher and the degree to which he impresses it on the student is a significant feature of the class. The rationale for the future utility of the subject attempts to mitigate against current unpleasantness.

To the teacher's credit he does manage to teach for the higher thought process of "analysis." This emphasis occurs in all math classes we have studied. In all probability, the students will perform well on the Advanced Placement tests he keeps reminding them about. Since this is the main goal, the class may be a success in that regard. The cost is high, however. The strict humorless classroom atmosphere and total domination of the class by the teacher results in a particularly uninspiring class. There is no joking, no questioning—only the grimest pursuit of subject matter. When he wishes to "enrich" the class he does so by showing the students other ways of solvin equations. His pathetic attempts at "making the students independent" consist of occasionally not giving them any help on their homework.

When Mr. Harms tries to start a discussion in class, he asks recall questions that leave nothing to discuss and that no one cares to answer. In addition, he is a very hard grader. The extreme emphasis on grades is quite strong in the entire school—quite typical of all the middle class suburbs studied—and the teacher manifests these pressures. The severe competitive environment is very real to the students. There is one thing that the students like about his class—he doesn't collect and check their homework. However, unknown to them, he does check on them covertly.

Even the best student stresses the dullness of the class and claims that the only thing that keeps her going is pressure from her father to make good grades. At best, the other students are resigned. As a helpful crutch, Mr. Harms relies on his ultimate rationale, that learning math is unenjoyable ("There is no royal road") but one must do it in order to get ahead in college and eventually gain a competitive advantage in the job market. The philosophy of the community is embodied in the classroom of the teacher—learning is not intrinsically worthwhile, but is unpleasantly necessary to "getting ahead." The honors classes reveal a considerable trace of alitism. Parents and students see the classes as quite a status symbol.

In summary, strong community pressure for competition and success, a subject difficult to teach enjoyably, and a teacher who has little flexibility, humor, or ability to enliven the class, combine for an unhappy learning experience and a negative feeling toward the subject. As one of Mr. Harm's students says, "Math is a lot more 'cut and dried' than most subjects. I'm sorry to say, it seems mostly dried, and I don't think anything can help."

Atkin (1970) has called attention to the paradigm of this type of education in which educational services are perceived as "products" to be mass-produced. This production-line model calls for elaborate prespecification and quality control. Emphasis is placed on that which is replicable, easily quantifiable, readily discernible, and unambiguous. Education becomes engineering and finally industrial production. Evaluation becomes greatly simplified: one need only compare the prespecification to the final priduct.

PPBS—An Accountant's Dream

Thus we get simple business management tools applied to education—like the PPB system California is implementing soon. The system promises no less than providing "information necessary (1) for planning educational programs that will meet the needs of the community; and (2) for choosing among the alternative ways in which a school district can allocate resources to achieve its goals and objectives." (California State Department of Education, 1969) According to the State's lucid and well-written manual, here's how the system works:

The school arrives at a set of **goals** which are the cornerstone of the system. From the goals is derived a set of **objectives** which must be measurable. Based on these objectives the **program** is developed, which is a group of activities to accomplish the objectives, including attendant resources and schedules. This completes the program development. Then the **program description package** is drawn up, which includes the course content, objectives, and method of evaluation. Then the **program structure** is set up which is a hierarchial arrangement of programs. (The system is very big on hierarchies; about 15 of the 18 charts in the book are some kind of hierarchy.)

Finally the **program code** is built, which means each program is assigned a number; the **program budget** is completed; and the **multiyear financial plan,** a five-year cost projection, is constructed. All neatly rational and internally consistent — if you believe in an abstract "economic man." Actually any relation between the PPB **system** and reality will be purely coincidental.

First the problem of defining goals in a pluralistic society has already been noted. The PPBS manual spends no time on how to arrive at goals, and with good reason. Defining goals is a political, not an economic process. Empirical studies of business organizations have shown that their goals are changing, multiple, inconsistent—and the organizations survive quite nicely. (March, 1966) Upon close inspection even the profit goal in business organizations turns out to be quite elusive.

Assuming that the goal problem is overcome, one must then develop a set of objectives which are measurable—the old behavioral objectives problem. Here is a behavioral objective for gifted students from **Educational Technology** (Kapfer, 1968):

> "The student will be given a problem which is totally unfamiliar to him. He will be able to respond by stating ideas or solutions to the problem. The responses (as measured by a choice of checklists, teacher observations, teacher evaluation, and teacher-made exercises) will be rated on the basis of newness and uniqueness."

How many of these would one have to write to fully cover what a gifted child should be doing? One Office of Education project set out to compile a complete set of behavioral objectives for the high school. Before it was abandoned, the last I heard was that they had 20,000. Teachers must teach and measure each one. No wonder they want a raise.

There are many other objections to behavioral objectives, most of which revolve around the impossibility of specifying a complete set for anyone and the difficulty of specifying any but the most trivial tasks. I might add that of all the gifted programs we investigated in Illinois, not one employed a set of behavoral objectives.

The program description package is prepared after the program has been "developed." (See page 14) If you compare the simplicity of this program description with even the brief excerpts from our case study example, you will see how something as complex as a classroom cannot be reduced to a ledger sheet. I submit that with this form completed you would know almost nothing worthwhile about the program. There is also implicit here the interesting idea that "program development" is completed when these activities are specified. This is not how good gifted programs develop. Our own data indicate that program development is a complicated process that occurs when an "advocate," perhaps a parent or teacher, becomes interested in developing a program for gifted kids. This advocate organizes a group of people, secures resources and proceeds to build a program. The development of the program is never complete. (House, et al, 1970)

Finally these artifacts are coded and related to the budget—which I suspect was the purpose all along. The code numbers can then be manipulated as if they meant something—which they clearly do not. The manual is peppered with statements like "Assessment of results is essential" and other exhorations to evaluate thes programs, do cost/benefit anlyses and so on. But actual procedures for doing so are glossed over at great speed. Well they might be, for there is absolutely no legitimate way now in existence to collect the measures and make the comparisons the system demands.

PPBS Element Form

GOAL STATEMENT

To provide all students the opportunity to develop skills in typing, shorthand, bookkeeping, and office machine operation.

DEVELOPED BY_____

OBJECTIVE STATEMENT AND EVALUATIVE CRITERIA

Ninety perecent of graduating Business Curriculum students shall meet the following standards:

Typing—70 words per minute as measured by the IBM Test with 90% accuracy.

Shorthand—100 words per minute as measured by the Gregg test.

Bookkeeping—Demonstrate understanding of journals, income statements, and balance sheets as determined by decision tests.

Office Machine Operation—Mean score equal to national average on NCR test.

DEVELOPED BY_____

PROGRAM DESCRIPTION SUMMARY

This program is designed to allow students to develop skills in the areas of typing, shorthand, bookkeeping, and office machine operation sufficient to gain employment using these skills. This program will include practice with typical problems and situations found in actual employment situations. Contacts will be maintained with the local business community to aid students in obtaining employment.

DEVELOPED BY_____

PROGRAM TITLE_____

PROGRAM ID No._____ PROGRAM No.____ PROGRAM LEVEL____

SUPPORTED PROGRAMS_____

SUPPORTING PROGRAMS_____

The end result is what I always find in dealing with systems analysis—a lot of hazy generalizations that seem reasonable on the surface, but are actually impossible to implement. All the objections to this system that I have raised are based on either empirical evidence or experience. But one thing I've found with the systems people is that they are never disturbed by data. They simply say, "You aren't doing it right," which means that people aren't behaving in accordance with the rationalistic economic model that underlies the system. If they did behave properly the model would work — a brilliant piece of circular logic.

In short, this system seems to me to be an accountant's dream of how the world should work. Its implicit message is economic efficiency, promoting economic rationality at the expense of other human characteristics such as political rationality (Wildavsky, 1968). Significantly, the California system was drawn up by an accounting and budgeting commission and almost all the examples used are in business education.

My prognosis is something like this. My worst fears are that the system will actually succeed in doing what I see as its real design. In that case, we will have a very high level of managerial education

for the gifted. The repression and dullness of the classroom will increase and we will have succeeded in crucifying our kids on the cross of economic efficiency. My most hopeful prediction is that people will realize the restrictiveness of this system and subvert it into an information system that attends to the needs of the kids instead of simply shaping kids to the needs of the institutions.

But I don't think either of these projections is likely in the near future. I think the schools will stay pretty much as they are now. Schoolmen will get by just as they got through chemistry lab—by filling out forms the way they are expected to, regardless of what is happening in reality. It will take more people to fill out the forms, more destroyed trees to provide the paper, and more people in Sacramento to shuffle them around. As one economist says, most PPB systems have culminated in "sterile accounting schemes." (Brandl, 1970) But I can see the public and certain government leaders providing more money for the schools now that "sound business procedures" have been adopted. The end result will be a slightly less efficient system that looks more efficient. But even that is certainly preferable to the first choice I outlined.

Institutional Accountability

Here is a newspaper clipping from THE WALL STEET JOUNAL dated June 24, 1970, datelined San Francisco. The headlines read:

EDUCATED DROPOUTS
College Trained Youths Shun the Professions for a Free-Form Life

John Spitzer of Harvard Is Cabbie; Clara Perkinson Smith Carries the Mail

OPTING OUT OF "THE SYSTEM"

The article goes on to say that increasing numbers of highly talented and educated young people do not want to join the system. John Spitzer says, "When I was a senior, Dylan's 'Subterranean Homesick Blues' came out. Remember that's the one when he says, 'twenty years in school and then they put you on the day shift.' That touched so many nerves for so many people; that said it all." Although we might not agree on the problem, on whether those kids are refuse or martyrs, saboteurs or saviors, we would agree that PPBS is not going to solve the problem. In fact, it would make the situation worse.

I wish I had a well-worked out alternative to economic accountability that would solve all our problems. I don't. But let me suggest a different mode of accountability in which institutions are accountable to persons rather than persons being accountable to the institution. Such an accountability scheme would provide feedback on the client's well-being instead of just how well they are "shaping up." Teachers might be responsible to students and administrators to teachers. The information system attendant to this mode of accountability would revolve around the question, "Is this information going to help the institution adjust to characteristics of the student or will it result in shaping the student to the demands of the institution?"

With this in mind, here are some recommendations for dealing with any kind of information system.

1. **Examine the function if the system, not just its rationale.** The true nature of the system is revealed by how it works, not what it promises.

2. **Try to respect the complexity of reality.** Good gifted programs do not result from establishing a few objectives and selecting appropriate activities. Establishing any program successfully necessitates complex political processes. Any model of development that denies this is dysfunctional.

3. **Insist on multiple outcomes.** No educational program should be judged on the basis of one or two measures. Resist attempts to reduce educational output to simple achievement scores.

4. **Look at classroom transactions.** Regardless of outcomes, the atmosphere in which a child spends a good portion of his life is important. One instrument, the Class Activities Questionnaire, developed by a former California gifted teacher, Joe Steele, examines both the cognitive and affective dimensions of the classroom. Many classroom interaction schemes are also available.

5. **Collect many different kinds of data.** In light of all the above, the more kinds of data the better. Testimonials, interviews, classroom interaction analysis, objective tests—almost any data is appropriate. They provide a picture of the richness of classroom life and mitigate against making decisions based on highly abstract information. One thing we did in our evaluation was combine 25 different kinds of information to produce a case study of the class. The resulting image of the class was much superior to a combination of just a few kinds of data.

6. **Collect data from different sources.** It is especially important to find out what students are thinking, even if one asks only "What are the three things in this class you would like to change most?" Students can give as good a reading of what is going on as anyone else. Information should also be collected from parents and other groups.

7. **Report to different audiences.** For example, parents have a right to know something about what's going on in class. The Class Report form, developed by Bob Stake, provides a description for parents of gifted classes as seen by the teacher.

8. **Rely on intuition and professional judgments.** Many experts on PPBS emphasize that analytic tools should only provide assistance to intuition. There is no substitute for human judgment.

9. **Promote diversity within the system.** The most difficult task for organizations is to generate alternative ways of doing things. (March, 1966) An information system should promote the development of divergent ideas, not inhibit them. There are even many places where

economic efficiency should be the criterion. For example, we did a cost/benefit analysis comparing the efficacy of demonstration centers and summer training institutes. But the circumstances were proper—a few, short-range goals were at stake. Ordinarily, life is not that simple.

Finally, let me say that nowhere is it more important to make the institutions accountable to people than in gifted education. Like baby seals, the gifted are vulnerable to exploitation. When the federal government has been concerned at all, it has treated the gifted as exploitable natural resources. Nothing could be easier than for the drives behind economic accountability to transform gifted education into a high form of managerial education for a small elite. Gifted education would simply become defining the most difficult jobs and training students for them. The gifted would be those who learn the job requirements fastest. The human potential of our students would be sacrificed. That would be a tragedy for the people involved and a catastrophe for our social structure.

Fortunately we have found in our studies in Illinois that gifted programs do make a difference, in spite of the kind of classroom typified by our case study of Mr. Harm's class. Consonant with the goals of the Illinois program, we found many classes emphasizing opportunities for individualism, independence, divergent thought, and student involvement. We have found many class atmospheres where playing with ideas was encouraged and students were enthusiastic. In fact, the basic dichotomy we found for distinguishing classes was enthusiasm, independence, and higher level thought processes on the one hand and test/grade stress and lower level thought processes on the other. What distinguished gifted and non-gifted classes was that the students in the gifted classes had an active role, while students in the non-gifted classes were subjected to a listening, passive role. (Steele, et al, 1970) Unfortunately, we found very few comprehensive programs or programs for gifted minorities. Nor did we find special provisions for the most highly gifted.

As I look at the agenda for this conference I am encouraged. I see sessions on politics and community involvement; creativity, higher thought processes, values, and effective learning; and, most encouraging, talks with the students themselves about their programs. These are the things we should be looking for and be accountable for in gifted programs. But breaking the exclusive hold of economic accountability is not easy to do. I hope that economists and those who control our economic institutions will stop maximizing economic gains long enough to assess the long-range consequences of doing so. There is some hope. Even an economist has remarked, "When my son, Christopher, got all A's in first grade, but found school repressive and dull, the arguments that his grades indicated a successful and lucrative future was little consolation to him or to me." (Brandl, 1970)

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PARENT ORGANIZATIONS' ROLE IN GIFTED EDUCATION

by

Gifted Children's Association of the
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Summary: Background, history, activities, and question and answer period.

The once neat lines between the "outside" community and the school are blurring as an increasingly complicated society depends more and more on its schools to solve problems. Teachers, students, parents, and community must work together in partnership—instead of in conflict. A climate of two-way communication, mutual acceptance, and trust must be maintained. Schools are not equipped or ready to handle all the problems these uncommon children present. Schools cannot do the job alone, and should not. A broad base of parental support is needed. Parents must be involved and this is especially true in the area of education for the gifted.

Up until a few years ago a parent in the school was regarded as a nuisance, a meddler, even a threat. Although in some schools parents are still unwelcome, there is a growing trend toward accepting, even inviting, parents to become involved.

Parents of the gifted can be the best allies schools will find anywhere. They are more interested in education than most, feel more strongly about their children's education, are more willing to be involved, and have much to contribute. Parents of the gifted make wonderful resource people. Many have lived overseas; their hobbies, interests and professions can be used to advantage for classroom enrichment; tours to places of interest not usually available can be arranged; special equipment and displays can be loaned or supplied; speakers can be obtained; and in cooperation with the schools many community activities for children can be provided.

Parents of the gifted are also more critical, vocal and articulate. It is much more pleasant to have us as friends than as critics. Simply opening up lines of communication can often accomplish this. We want the schools to listen to what we have to say, talk to us truthfully, and above all, avoid what we call the "soothing syrup" approach.

Parents of the gifted are the first to criticize and the first to flee if the schools do not measure up to their standards. Their "threshold of flight" is often low. You would be amazed at the amount of moving that is done to find just the right school for their children and the amount of investigating that is done before the move is made. And when a school has lost its gifted children, it has lost something special.

We recognize the financial burdens and limitations of our schools. Therefore, instead of pounding on their desks, we have chosen to work quietly, cooperating with our schools, trying to understand their problems, and attempting to help through constructive action. We have put much effort into obtaining state funding for programs for the gifted. Here we can apply the full weight of parent groups and become a pressure or lobbying group. Because nonprofit corporations are limited by law in the amount of political activity they may indulge in, the parent groups have joined together in an organization known as the California Parents for the Gifted. The main purpose of this organization is to collect, coordinate and disseminate information among the various parent and civic groups organized for the benefit of gifted children education. It is through this organization, representing all of us, that our political activities are carried out.

We wish to stress that what we want for our children is an education commensurate with their ability.

> "Equal education is the foundation of the right to be a human being . . . This does not mean that **any gifted child** or any child having a greater capability to learn may or shall be deprived of his or her opportunity of learning more. It does mean that every child shall have the equal opportunity to learn to the best of his or her ability. That opportunity must be made available to all on equal terms."
>
> Superior Court Case 822854
> County of Los Angeles
> Alfred Gitelson, Judge

There is a prevalent feeling that these children "have so much going for them" that they do not need any extra help. But they do! Gifted children, contrary to popular notion, are often the neglected children in the classroom. Because they require an inordinate amount of the teacher's time, mentally gifted pupils are too often forced into a program designed for the average student. There is increasing evidence that these children are suffering from both physical and mental problems. Moments of excitement and challenge for most children may be dull and repetitious for the brighter few. What is full education to one child may be inadequate training for another. These children who demonstrate more than ordinary abilities must not be overlooked.

In an effort to solve some of the problems facing parents of gifted we would like to tell you something about the Gifted Children's Association of the San Fernando Valley, not to sell this type of organization to you, but to illustrate what can be done by parent volunteers when they form a group to seek improvement in the education of the gifted. This will reflect our approach to solving the needs as we see them in our own community. We urge each new association, as it organizes, to evaluate the needs of its own community and to determine its own goals and objectives. Some associations work

very closely with their schools from the beginning—especially in smaller communities. Others find it necessary to be almost entirely independent of the schools until they can prove themselves to be responsible and worthwhile.

The panel will make a brief presentation of the activities of our association and we will then be available for a question and answer session.

COMMUNICATING WITH THE CALIFORNIA STATE LEGISLATURE

by

Gerald Stanley, Ed.D.
Garden Grove Unified School District

Mr. Cory shared many insights concerning the workings of our legislature and how to communicate with that body. He made the point that legislators tend to listen more diligently to those persons with whom they have had extended contact. It seems to naturally follow that if we are to be effective with the state legislature we (C.A.G.) are going to have to become more active in politiacl activities.

According to Mr. Cory, we can be more effective working in our own assembly and senate district campaigns than by swarming into Sacramento as a group or sending short letters or telegrams which simply say, "Please voe for (or against) A.B. 001." Speaking of letters, Mr. Cory made the point that all letters get answered, but not all receive the same reading. Legislators are interested in what their constituents have to say, but the typical letter to the legislature just doesn't say very much. Mr. Cory suggested that he and presumably others in the legislature are more impressed with longer letters in which constituents offer a rationale for their position or give supportive factual data.

The most significant way to influence a legislator, according to Mr. Cory, is to have established a personal relationship with him through individual efforts in his behalf prior to the time that one has a particular bill to discuss with him. One of the implications of this for professional organizations who have particular interests in specific bills is to seek out their organization members who have previously established relationships with their legislators. Then those organization members should urge their legislators to support the bills in which we are interested.

Mr. Cory gave us many unique insights into the workings of the state legislature. He was candid and forthright in his statements. His message to professional organizations was clear—become politically active as individuals!

SUMMARY OF REMARKS BY THE HONORABLE KENNETH CORY made on February 27, 1971, at the California Association for the Gifted Conference in Monterey

CREATIVITY FROM LEARNING

by

Ivy D. Beaubouef
Cajon Valley Union School District
El Cajon, California

For years local educational agencies have been initiating programs that would help meet specific needs of children. Educators have run the gamut from focusing their strength, efforts and monies on the mentally retarded child, the gifted child, the physically handicapped child, the educationally handicapped child, the culturally deprived child, the pre-school child, but there has always been one need that has not been met sifficiently to allow the students to grow up into not just leaders of tomorrow, but decision makers of the future, and that one need is related to the creative or productive divergent thinking processes.

Historically every educator has looked for and tried to develop the "creative spark" in his students. However, according to recent nationwide research it has been found that educators generally do not understand what is meant by the term "creativity" and they have "difficulty in identifying and nurturing creative talent in their classrooms." It has been apparent that many students with much creative potential have gone unnoticed in many classrooms. Creative potential is considered to be a normally distributed trait in the population and like intelligence, **every student** in **every classroom** possesses some degree of creativeness. The problem has been the inability to identify the child's creativeness and further to develop it. The objective of education as it relates to the creative potential of children has been voiced most adequately by Harvard's Ann Roe. She states, "Our problem is not to develop creativity, but to keep from inhibiting creativity. The creative approach to life is built into the human species—a part of our normal functioning—and our problem is to let it go, rather than get it started."

If our nation is to survive, then education must not continue with "more of the same.","" but students must be trained to be not merely learners, but also thinkers. If this nation is really concerned about **natural resources** then something has to be done about the creative mind, which needs nurturing, as much as any other resource this country has.

Arnold Joseph Toynbee, the British historian, has written much in the area of creative thinking. He states that "creative talent is the talent which, when functioning effectively, can make history in any area of human endeavor. Creativity is mankind's ultimate capital asset—a matter of life or death for any society. He concludes that if America is to fulfiill her manifest destiny, she must treasure and foster all the creative potential that she has within her."

It is with the above premise in mind that the Cajon Valley School District began negotiations with Title III of the Elementary and Secondary Education Act for the proposal in the area of creativity. The "dream" was to establish an **Environment to Encourage Creativity In Learning.** The objectives of the program that would encompass the whole school concept (K-6) are: (1) to create an awareness in the teaching staff of the meaning of creativity and how to recognize creative traits in students; (2) to produce an environment in the school and classrooms which will be conducive to creative productive divergent thinking; (3) to alter teaching techniques and strategies rather than subject matter, to stimulate students to develop their creative potential to the fullest.

This unique program has encouraged teachers to put into practice the findings of recent research concerning the development of creative thinking processes in students. The teaching staff (25 strong) is undergoing a year long intensive training session conducted by outstanding consultants in the area of creativity. Sessions are then followed by the teacher implementing classroom strategies which have resulted from program development activities. Teachers also use video tape equipment to record classroom sessions in order to evaluate their own teaching techniques. Of course, the most important criterion as to the effectiveness of the teacher is the response from his students.

The course of study at the project school is identical to what it has been in the past for teachers and students at each grade and learning level. The difference is the concentrated effort of the teacher to use techniques developed by the project consultants which tend to bring out the individual's creativity and help him to think clearly and to use his mind with greater dexterity. The student is required to diverge his thinking in an effort to use his mind to think of new ideas, new responses to a problem or question. He is called upon to delve into every corner of his stored up knowledge to make new associations. This method of inquiry is called productive divergent thinking.

This can be accomplished only if a climate exists in the school whereby there is freedom to learn. Such a climate has been implemented at the Project School. The student is being taught to create and cooperate but not conform. His self-confidence is being returned to him. This climate allows for verbal and non-verbal communication without fear of ridicule from teachers or peers. There is a "free-spirit" in this environment that permits students to come face to face with their strengths and weaknesses and therefore creating positive self-images. A **Learning Center** has been instrumental in helping to produce this climate. This has been accomplished by remodeling the auditorium and stage area into a two-level learning center with a full library and instructional media complement. A resource teacher and five teacher assistants have provided a warm and inviting climate that supplements the classrooms in stimulating productive divergent thinking processes and allows an open-endedness in the learning environment. It is a place where students may not only study and conduct research, but also pause to reflect and project their own ideas.

The project staff realizes that pupil creativeness is dependent on many factors, such as the amount of knowledge the student has which may be recalled, but on the other hand, creativity goes further than the mere feeding back of facts. The following productive thinking processes contribute heavily to creativity; it is these thinking processes which the Cuyamaca staff are attempting to develop more fully in their pupils: (1) fluent thinking—the ability to produce a number of ideas and responses; (2) flexible thinking—the variety of approaches and kinds of ideas; (3) original thinking — unusual, clever ideas, production away from the obvious; (4) elaborative thinking—adding necessary details, stretching or expanding upon ideas; (5) willingness to take risks—ventures to guess, setting greater goals for greater gains; (6) preference for complexity—digging into difficult problems or solutions, liking to work with intricate ideas; (7) curiosity—the capacity to wonder about things which may lead somewhere; (8) imagination — the freedom to form mental images which have not been actually present to the senses.

It must be remembered that subject matter is **still** very important, but it is only the vehicle this district is using for developing the thinking processes. The methids and techniques are the highway and the thinking processes are the destination.

ADDING ANOTHER STRING TO HIS BOW— DEVELOPING LEADERSHIP ABILITY IN THE GIFTED (Grades 4-8)

by

Deborah K. Osen. Ph.D.
Assistant Professor, School of Education
California State College at Fullerton

"I don't like it—I won't do it—and you can't make me. Besides that—it's dumb!" How can bright underachievers who react like this to so many school activities turn themselves on to involvement as leaders?

Under the guidance of Miss Virginia Mott, Serv-Ann advisor in the Anaheim Union High School District, members of the panel will role play bright underachievers in the process of developing large group leadership skills in this nationally-known program.

Mrs. Dorothy Klausner of Counseling and Consultant Services (Fullerton) will react to this presentation and assist workshop participants in developing guidelines for extending these techniques for use with bright underachievers in grades 4-8.

To extend the concept of developing leadership in the gifted as presented in Session I, the second session will examine methods by which the gifted child functions as a leader of small groups and of himself as an independent learner.

Participants in the workshop will use a systems approach to problem solving for the gifted, developed by Dr. Deborah K. Osen and implemented in the 1970 Summer School for the Gifted (Grades K-12), co-sponsored by California State College, Fullerton, and the Placentia Unified School District.

PIAGET'S APPROACH TO THE ASSESSMENT OF INTELLIGENCE

Russel E. Orpet, Ed.D.
California State College at Long Beach

Outline of Presentation

A. Two theoretical trends
   1. Psychometric
      a. Binet-Terman general mental ability approach (Spearman "g")
      b. Thurstone-Guilford multivariate cognitive functions.
   2. Piaget's Cognitine—Development Approach

B. Cognitive developmental theory — summary of main points.
   1. Concerned with the nature of knowledge and the structures and processes by which it is acquired.
   2. Development of knowledge cannot be explained merely by maturation and experience.
   3. Third factor added by Piaget is a mental logical structure called equilibration.
   4. Nature of cognition changes in a predictable and orderly sequence through various stages of intellectual development.
   5. Development is characterized by the formation of new structures.
   6. Experiences are not recorded as isolated S-R connections but are integrated into a constantly changing structure.

C. Factors affecting development.
   1. Maturation (organic growth).
   2. Experience.
      a. Experience with the physical world (actions performed on objects).
      b. Social interaction and transmission, e.g., imparting of knowledge by language.
   3. Equilibration
      a. Series of active adaptations on the part of the child in response to an external disturbance.
      b. Atjustment is both retroactive and anticipatory.
      c. Fundamental ingredients of intellectual functioning are assimilation and accommodation.
         (1) **Assimilation**
            (a) Organism incorporates environmental data into its own organization.
            (b) Integration of external events into evolving or completed cognitive structures.
         (2) **Accommodation**
            (a) Applying, adapting, or modifying inner organization to a particular environmental reality.
            (b) Process of modifying existing cognitive structures to the requirements posed by the environment.

D. Four major periods of mental development
   1. Sensorimotor period (birth to about 2 years).
      a. Four major acquisitions.
         (1) Able to coordinate and integrate information from the various sensory modalities.
         (2) Schemas involving different parts of the body are integrated.
         (3) Able to exhibit goal directed and purposeful behavior.
         (4) Concept of the permanent object.

b. Plaget divides sensorimotor period into six successive stages.

2. Preoperational (2 to about 7 years).
   a. Preconceptual reasoning phase (2 to 4 years).
      (1) Approaches point at which he can function symbolically.
      (2) Able to deal with only one characteristic of an object..
   b. Intuitive thought (4 to 7 years).
      (1) Form of thought in which judgments regarding physical reality are made on the basis of perception rather than reason.
      (2) Logical reasoning is overpowered by the deceptive demands of intuition.
3. Concrete logical thinking operations (7 to 12 years).
   a. Thinking is logical and systematic but still bound to direct experience (concrete).
   b. Ability to comprehend the principle of conservation of matter and quantity.
4. Formal thinking operations (12 to 15 years).
   a. Reasoning no longer tied to the concrete.
   b. Able to formulate alternative hypotheses and to think abstractly and to use verbal propositions.
   c. Able to reason about contrary to fact assumptions.
   d. Able to reason realistically about the future.

E. Film demonstrating Piaget's cognitive stages: preoperational, concrete, logical, and formal operations.

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HIGHLY GIFTED STUDENTS—CAN WE DESCRIBE THEM?

Palo Alto Unified School District's Pilot Program
for Highly Gifted.....Grades K-12

Co-Chairmen: Mrs. Ruthe Lundy
Dr. Rosemarie Moore

SUMMARY: PROGRESS REPORT

"WHY" A STUDY? For a number of years, Palo Alto Unified School District has had a planned enrichment program for its 25% of students identified as academically gifted by criteria of California State Department of Education. However, it has been impossible to assess how appropriate those educational arrangements are for highly able students. Little is known about those dimensions of individual differences which may characterize any group of highly academically able students.

We have begun to describe that group of Palo Alto students for our purpose of individualized educational planning for each student. Then, as we can describe individually and for the group, some important dimensions of learning experience and learning effectiveness, we will be able to evaluate the educational arrangements we are making for them.

"HOW" A STUDY? Our first step was to develop an instrument with which we could begin to describe the current learning experiences and preferences of highly able students. Two procedures helped us begin the semistructured interview schedule we are presently using.

1. Several teachers of identified highly gifted students during elementary school were provided released time to meet with us. They were asked to describe, discuss, and characterize the modes of learning and patterns of excellence of those students they had known and taught.
2. About a dozen secondary school students, identified as highly able, met in small groups with one research person to participate in developing the research effort, by describing their own learning experiences in school and out of school, their preferences for curriculum, materials, time, instructional arrangements, independent study, etc.

From the materials gathered, a questionnaire was developed for use from third through twelfth grades, to gather a sample of experience descriptions. (Try-out of the instrument at seventh, fourth, and eleventh grade level showed it to be reasonably suitable at those levels, and tape recordings of its administration were made for training purposes with future interviewers.) Each half-hour interview is taped on cassette, as well as recorded on the enclosed form by the interviewer.

RESULTS TO THE PRESENT: All Palo Alto students of third and fifth grade levels whose individual intelligence test score is 3 S.D. above mean or more, have been interviewed. The data is not yet tallied or rated for even the most simple statistical presentation. Impressions are all I can give, but those may interest you.

Four general dimensions appear often in the children's interview responses.

1. **Vareity:** a desire, appreciation, and preference for varied methods of learning. (i.e. "It's boring to just work out of a book, and answer questions. We look into the book and we are asked for an answer." "We just get a question sheet, and have to do it in two days." "I like it best when we do special fun things to learn our math and spelling.")

2. A second dimension is the **Freedom to Pursue** an inquiry for piece of work, i.e. "I like it best when we can draw what we want to, and have time to finish it." "It's most important when I learned for myself. I learned how to run and not fall; I'm fast now, I practice at recess, by myself." "I liked finding a lot of material on the person I'm giving a report on. I had time to really look."

3. An appreciation or desire for **Humor** and the **Unexpected** in school situations is a third dimension. (i.e. "More things like today—not bad, just funny and unusual. It made school fun-ner!" "My teacher has a sense of humor and math is more fun." "When we ask a question, it's sometimes funny; she helps us learn when it's funny too.")

4. Often the timely and suitable instance of **Adult Help** is described by children as a valuable part of school for them. For example, "I like math best; the teacher shows us easy ways of doing math; it's fun and I learn fast." "I like him because he'll listen to what I say, and he just drops by sometimes." "A teacher who talks often to students, and if they have trouble, helps them right away." "She explains things well, not just once or one way. Students share their work and not just shouting I've got it!"

NEXT STEPS: The same interview will be administered to ninth and eleventh grade students, comparably identified, and a similar one to select teachers of the students studied.

EXPECTED OUTCOMES: 1. **Data** summaries of student interviews will be analyzed for suggested instructional changes, for ways of individualizing educational program for different uses of the schools, resources of teachers, peer groups, and time blocks, etc.

2. The **method** may be useful as an example of how high school students can participate in developing research programs about their own education; as an example of collaborative work between guidance and instruction departments in a school district, leading to greater knowledge of individual differences which are significant for educational arrangements; as an example of how a research project generates interest among participating school staff members for developing new educational activities for highly able students.

* * *

Palo Alto Unified School District
Advanced Programs Department

INTERVIEW DATA SHEET—HIGHLY GIFTED

Write in summary of student comments.

1. WHAT IS THE MOST IMPORTANT THING THAT HAPPENED IN SCHOOL TODAY? (alone or with others? how did it come about? momentary or prolonged?)
2. WHAT WAS THE MOST BORING THING FOR YOU TODAY? (alone or with others? how did it come about? momentary or prolonged?)
3. WHAT DID YOU THINK ABOUT OR IMAGINE TODAY THAT SEEMS WORTH REMEMBERING?
4. THINKING BACK, WHAT WAS THE MOST EXCITING, MOVING, UPLIFTING OR "PEAK SCHOOL EXPERIENCE OF THIS LAST SCHOOL YEAR?
5. THINKING BACK, WHAT WAS THE MOST DIFFICULT, UNHAPPY, DISAPPOINTING, SAD OR "VALLEY" SCHOOL EXPERIENCE THIS LAST SCHOOL YEAR?
6. COMPARING WHAT HAPPENS IN SCHOOL AND OUT OF SCHOOL, WHAT IS DIFFERENT ABOUT THE IMPORTANT THINGS IN SCHOOL AND OUT OF SCHOOL TO YOU)?
7. ARE THERE THINGS YOU ARE VERY INTERESTED IN THAT YOU DON'T DISCUSS IN SCHOOL? WHY? WHAT MIGHT MAKE THIS DIFFERENT IF SCHOOL COULD BE CHANGED?
8. WHAT PART DOES IMAGINATION PLAY IN YOUR LIFE? WHAT DO YOU USE IT FOR? HOW DOES IT HELP YOU (OR DOES IT)?
9. IN WHAT KIND OF CLASS SETTING OR WITH WHAT KIND OF TEACHER DO YOU LEARN BEST (MOST ENJOYABLY AND IN DEPTH)?
10. HOW WOULD YOU ORGANIZE SCHOOL OR HAVE IT ARRANGED SO THAT YOU OR OTHERS LIKE YOU COULD LEARN BEST?)self study, small groups of other students you could teach as well as be taught?)

11. WHEN DO YOU LIKE TO LEARN ALONE? WHEN DO YOU LIKE TO LEARN WITH OTHERS?
12. DO YOU HAVE SOME TEACHERS YOU LIKE TO TALK TO ABOUT THINGS IMPORTANT TO YOU? WHAT ABOUT THEM MAKES YOU FEEL YOU CAN TALK TO THEM?
13. WHAT KIND OF SCHOOL WORK DO YOU LIKE BEST? WHY? HOW MUCH OF THE SCHOOL DAY GOES INTO THIS KIND OF WORK?
14. WHAT KIND OF SCHOOL WORK DO YOU LIKE LEAST? WHY? HOW MUCH OF THE SCHOOL DAY GOES INTO THIS?
15. FINALLY, IF YOU COULD HAVE ANY KIND OF SITUATION AT SCHOOL THAT YOU WANTED AND STILL GET CREDIT, ETC., WHAT KIND OF THING WOULD YOU ASK FOR?

ONE GIFTED, TWO GIFTED, THREE GIFTED

—The Overlooked Minority?

or

PROVIDING QUALITATIVELY DIFFERENT LEARNING OPPORTUNITIES FOR SMALL NUMBERS OF GIFTED CHILDREN

By Irving S. Sato

"I shall be telling this with a sigh
Somewhere ages and ages hence:
Two roads diverged in a wood, and I—
I took the one less traveled by,
And that has made all the difference."
—from "The Road Not Taken"
by Robert Frost

The individual teacher—that educator "on the firing line"—determines the educational difference for that single gifted child in his classroom. When there is a small number of gifted children in a class, the teacher must have a strong commitment to gifted-child education, for in reality, such a teacher will expend as much time and energy as, or more than, one preparing and planning learning experiences for larger numbers of gifted. And there are those other children of varying abilities in the classroom for whom he must also make provisions. A further handicap for this teacher is that oftentimes he is relatively far away (perhaps in a rural setting) from resources which could help him do the job.

Nevertheless, after the committed teacher tunes in to the unique learning characteristics of gifted children, he should assimilate the following principles into his teaching:

—Maintaining openendedness and flexibility.
—Encouraging independent inquiry, individualized learning.
—Providing multiple resources.

Through these key principles, it would be possible to make available qualitatively different learning opportunities for small numbers of gifted children.

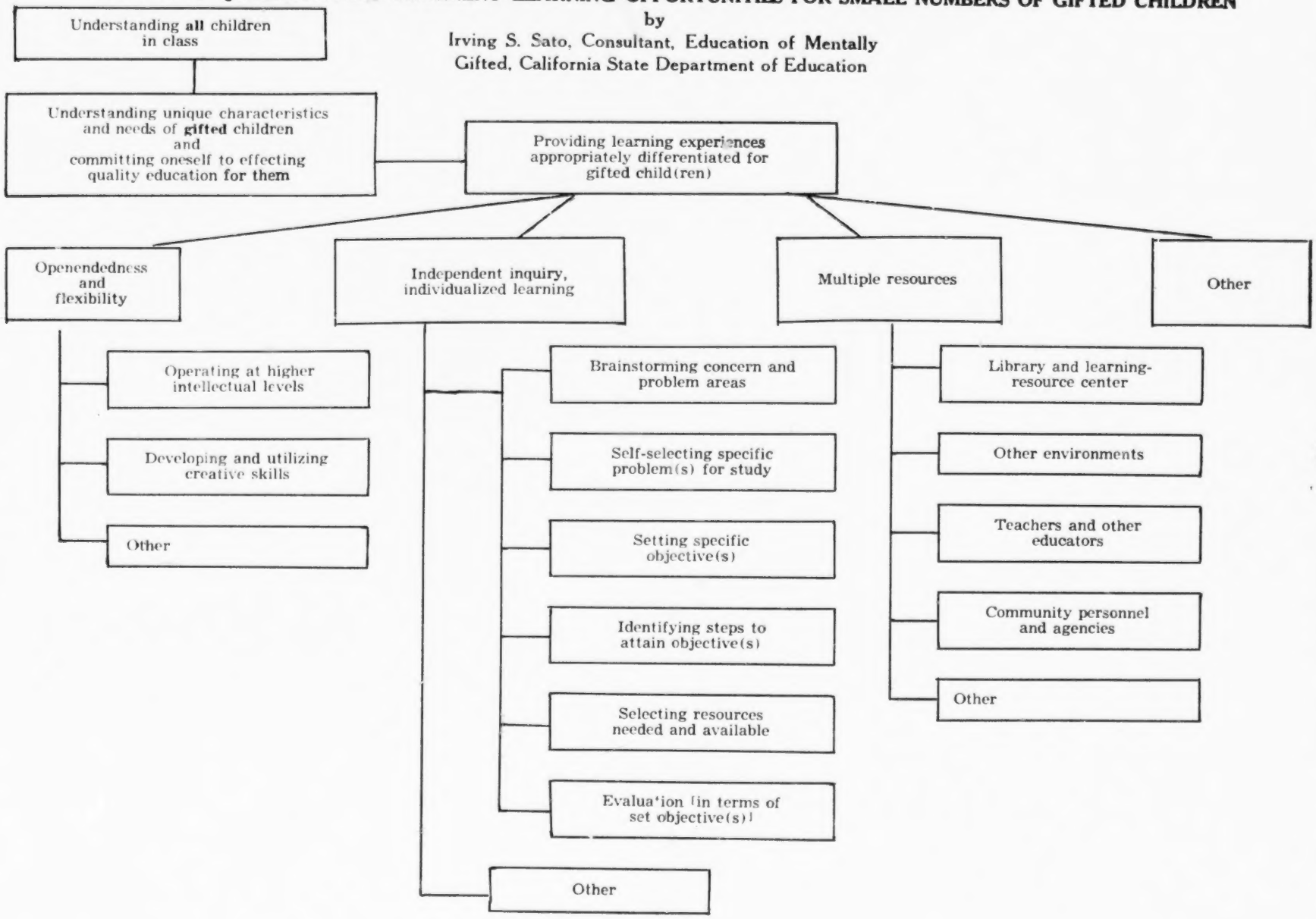
(The workshop group was divided into triads to develop **specific** ways in which a teacher can work with small numbers of gifted. The triads used the model for independent inquiry outlined on the chart so that they could become familiar with how children could operate independently through a similar process.)

We educators should constantly be tapping resources which will help change us so that we can become more able facilitators and orchestrators of learning. Among these potential resources are the following:

—Observing **and** participating in student activities in others' classrooms.
—Reading magazines and books **actively** by reacting, interacting, adapting.
  —Publications on the gifted and talented (Gallagher, Gold, Ward, Barbe, French, Gowan, Martinson, etc.; California State Department of Education publications).
  —Publications on education in general (Postman, Lessinger, Kohl, Rogers, Leonard, Glasser, etc.)
—Attending **and** participating in workshops, conferences, and college courses.
—Learning from other people—kids, parents, business and industry, educators, gifted people in various fields.

ONE GIFTED, TWO GIFTED, THREE GIFTED — THE OVERLOOKED MINORITY? or PROVIDING QUALITATIVELY DIFFERENT LEARNING OPPORTUNITIES FOR SMALL NUMBERS OF GIFTED CHILDREN

by
Irving S. Sato, Consultant, Education of Mentally Gifted, California State Department of Education


Understanding all children in class
Understanding unique characteristics and needs of gifted children and committing oneself to effecting quality education for them
Providing learning experiences appropriately differentiated for gifted child(ren)
Openendedness and flexibility
Operating at higher intellectual levels
Developing and utilizing creative skills
Other
Independent inquiry, individualized learning
Brainstorming concern and problem areas
Self-selecting specific problem(s) for study
Setting specific objective(s)
Identifying steps to attain objective(s)
Selecting resources needed and available
Evaluation (in terms of set objective(s))
Other
Multiple resources
Library and learning-resource center
Other environments
Teachers and other educators
Community personnel and agencies
Other
Other

THE MILK OF HUMAN KINDNESS IS INSUFFICIENT

by

Mary Meeker, Ed.D.
Loyola University

The personal and academic history of five gifted girls identified in 1962 was traced from the fifth grade through their third year in college. (See Maurice Freehill's new book on Case Studies of Gifted Children, in press) The girls had formed a group, vieing for leadership from kindergarten through high school. Of the five, one of the highest achievers in high school was not gifted; she made a score of 115 on the Binet, but she made top grades and highest percentile scores on achievement tests and so was carried by the district. Her Binet responses, as were all of the girls, were placed in a structure of intellect profile and she showed all semantic successes, thus explaining her ability to achieve so highly. However, she was unable to compete with students at University of Santa Cruz in conceptualizing and has since dropped out of college.

Another girl, scoring 180 on the Binet, symbolic weaknesses (numerals) in the structure of intellect profile but highly creative (see rating scale) and high figural ability, did have great difficulty in math in high school and was counselled to withdraw from college bound groups by her high school counselor because of low math grades. Her parents intervened, demonstrating that she nevertheless scored above the 95% on group achievement scores. Her senior year brought her awards in several creative projects; her writing was superb. Her A's in English and History balanced her poor math grades and her college years have provided her with the stimulation and peer group experiences commensurate with her high ability. She has had recognition in photography, journalism, poetry and art. Still a loner, her social adjustment and independence have made her better equipped for overcoming the usual problems of adjustment and social conformity which try young people.

Two of the girls scored at 148 on the Binet. Both showed balanced structure of intellect profiles with strengths in symbolics and semantics. Both were CSF students, school leaders and placed high in grade point average at graduation. As would be expected, they have achieved well in college. Neither was included as creative in ratings done either in fifth grad or in high school. Neither has demonstrated creative skills in college and both are majoring in non-creative disciplines.

The fifth of the group had emotional problems stemming from a home environment in which highest expectations were held for her achievement. With a 153 IQ score and high semantic and high symbolic skills, she did not disappoint her parents. She frequently longed, however, to be involved in the creative aspects of high school. Her poetry was technically good, but void of any creative spark. She attempted dance but was too restricted in her body movements to succeed. She tried out for parts in the school plays. Her voice was too constricted to be given parts. She demonstrated at almost every attempt the need for expression away from home. She usually ended up coaching or helping the teacher because of her competency and conceptual skills. When she was not accepted at the university of her parents' choice, she turned to a male teacher and poured out all of her love and need for acceptance to him. At that point she began drinking and continued her drinking through the first two years of college. She was accepted at a state university and continued her good grades, but chose to live in an apartment alone. Her third year of college was sacrificed for a year abroad, traveling alone.

Summary. Identification of intellectual skills which organize abilities into a theory of human intelligence such as Guildford's structure of intellect allowed for individualized programs during elementary school years and some deficits were temporarily remediated. But the lack of articulation and lack of nurture of these same skills in non-articulated programs in traditional, college oriented high schools, actually led to failures for some of these children. Those who had been rated as creative, continued as creative and went into creative nelds in college. For those who needed creative experiences to counter balance emotional problems, no divergent production experiences were forthcoming or perhaps some of the failures could have been lessened.

The urgency of developing a tri-partite individualized curriculum based on differential diagnostics of 1) academic-intellectual skills, 2) social-emotional adjustment and 3) physiological needs can de demonstrated in the loss of potential when gifted children fail, in any one of the three areas.

Note: These girls were selected from a follow-up study of 67 gifted children who have been studied by the author for the past ten years. The girls, in this group, however, had been brought to the author's attention when they were in kindergarten and posing problems stemming from battles for leadership.

A RATING SCALE FOR IDENTIFYING CREATIVE POTENTIAL

by

Mary Meeker, Ed.D

Please rate this student by checking whether you consider him to be High, Medium or Low in comparison with other students.

Student's Name _____

	INTELLECTUALLY			PERSONALITY		
	High	Medium	Low	High	Medium	Low
UNUSUAL SENSITIVITY:						
To People						
To Problems						
To Perceptual Stimuli						
FLUENCY: Verbal						
Motor						
FLEXIBILITY:						
In Social Situations						
With Numerical Concepts						
With Abstracts Concepts						
With Concrete Media						
ORIGINALITY:						
Of Ideas						
Of Expressions (Verbal)						
(Motor)						
In Sense of Humor						
ABILITY TO ABSTRACT						
ABILITY TO ORGANIZE						
ABILITY TO SYNTHESIZE						
HIGH ENERGY LEVEL						
PERSEVERENCE						
IMPATIENT WITH ROUTINE						

Interpretation: When a student is found to be consistently high in any one or more of the above characteristics, it may well be that this is an indication of creative potential. Planned experiences in curriculum may provide the impetus for nurturing his ability so that it may be put to constructive use within the classroom.

THE FRAMEWORK FOR CURRICULUM FOR GIFTED

by

Mary Meeker, Ed.D.
Loyola University

The main thrust of this workshop was the description of the forthcoming Tentative State Framework for Curriculum for Gifted Children, now in press in the State Department of Education. There will be 32 individual frameworks for Science, Math, Language Arts, Literature, Art, Music, Foreign Language and Social Sciences. A separate framework for kindergarten for gifted children will also be published. The individual frameworks are developed in each subject matter for grades 1-3, 4-6, 7-9, and 10-12.

The necessity for developing a framework for gifted with different principles and objectives could be defended only if it were possible to develop a strategy which would be well based on theory.

Four theories which would have such applicability were chosen; two were models: Phenix, Piaget who are concerned with the process of learning and Guilford and Bloom-Krathwohl's Taxonomy which are concerned with the products of learning.

The accompanying given figure which will be published in the master framework shows how the commonalities of these four theories and models could be abstracted so that they would serve as a base for developing principles of education for the gifted. From these principles, objectives for teachers and children were developed.

The fifth chapter is devoted to evaluation of programs and includes an example of a new, complex and in-depth report card which will be passed on from teacher to teacher with a color coding of responses so that the growth of gifted students over time is apparent. Some teachers will not want to make such refined observations, and it is true that this kind of card will take more thinking, observing, and awareness of the individual student's levels

of development. For those teachers, the standard approach kind of reporting will suffice. For other teachers a special kind of reporting will seem necessary to evaluate the individualized approach suggested by the frameword.

Special recognition and appreciation go to the people who were so instrumental in the developing of the ideas behind the framework:

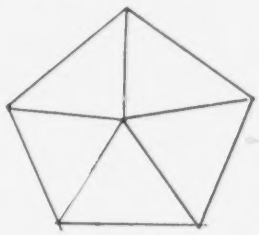
Maurice Freehill	Virgil Ward
Paul Plowman	Irving Sato
John Church	Ralph Hoepfner
Ron Hunt	Jim Magary
Charles Carey	Stewart Cooney

A SYSTEM OF COMMONALITIES DERIVED FROM FOUR MODELS

Mary Meeker, Ed.D.
Loyola University

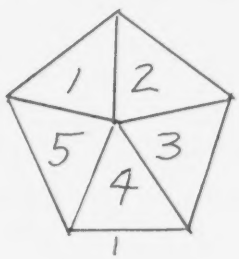
INTELLECTUAL RESPONSE TO ENVIRONMENT (IRE)

can be defined according to the way or ways information is processed



FACTORS OF IRE

there are five major operational abilities



1. COGNITION (COMPREHENSION)
2. MEMORY (KNOWLEDGE)
3. EVALUATION (ANALYSIS)
4. CONVERGENT PRODUCTION (APPLICATION-SYNTHESIS)
5. DIVERGENT PRODUCTION (APPLICATION-SYNTHESIS)

ORGANIZATION OF KNOWLEDGE

within any one of the major operational abilities, the information is organized from simple to complex

The ability to do convergent thinking, (4) results in one of six products

a. UNITS
b. CLASSES
c. RELATIONS
d. SYSTEMS
e. TRANSFORMATIONS
f. IMPLICATIONS

TEMPORAL FACTORS OF ORGANIZED MATERIAL

The Phenix hierarchy designates that the more simple curricular material (L) be taught before the more complicated, (P) that is, a through e above of any major ability (1-5), ought to be presented first in Language (L), secondly in Mathematics (M), on through Personal Knowledge (P)

L—LANGUAGE
M—MATHEMATICS
S—SCIENCES
A—ARTS
P—PERSONAL KNOWLEDGE, MORAL MEANINGS, HISTORY, RELIGION, PHILISOPHY

LEVEL OF ASSIMILATION OF KNOWLEDGE

Piaget, concerned with the basic intellectual processes underlying advanced knowledge, offers a time Sequence for order of difficulty of material

AGE
Birth to 2+ SM—SENSORI-MOTOR STAGE
2½ + to 5+ PC—PRE-CONSERVATION
5 to 12+ C—CONSERVATION STAGE
10 to adult F—FORMAL
F

The commonalities of these four theorists lay a psychological foundation for a system in the developing of curriculum and the sequence in which it is best presented.

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A THEORY OF DEVELOPMENTAL STAGES

John Curtis Cowan, Ph.D.
San Fernando Vailey State College

The significance of this theoretical paper is that it presents the first integrated field model of periodic development stage analysis. The central thesis is the transformation or refocus of energy in successive developmental stages. The need for energy-focusing leads to periodicity in developmental stage theory, which results in important consequences. Building on Eriksonian and Piagetian stages, this model (see appended diagram) arranges the stages in a three-period cycle, depending on whether the attention of the psyche is directed (as in the first column) toward the world of experience, (in the second column) toward the ego itself, or (in the third column) toward love of self or others.

Each stage thus has a special relationship with another, three stages removed from it. Thus stages 1, 4, 7 (trust, industry and generativity) are noticeable for a thing-oriented, sexually latent aspect, concerning the individual with experience in the world of the senses. There is a calmness or coolness of the ego which results from a lack of self-consciousness and an absorption in experience. By contrast stages 2, 5, 8 (autonomy, identity, and ego-integrity) are ego-bound, ego-oriented, and ego-circumscribed. They are all about me, my identity, my existence, and my salvation. They are times of searching introspection, of withdrawal rather than return, and of defiance of authority, rather than obedience to it.

Stages 3 and 6 (initiative and intimacy) deal with the love relationship and the expansion from narciccistic love through oedipal love of parents to generaliztd heterosexual love to fixation of that love on some one individual. Creativity first develops in the initiative stage through the child's reaction to the affectional approach of the opposite sexed parent. This enables the child to reach deeper into the preconscious and to build a bridge between this area and creative fantasy. If the first set of stages may be described as "cool," and the second set as "introspective" then the third set may be described as loving, spontaneous, joyful and creative. The key question is "Am I in control of my environment through the help of my beloved parent, or is my environment in control of me?" Whatever has potentiality for creativity, has potentiality for destructivity also. We do not find it surprising that the young child creates and destroys practically in the same breath. We seem, however, not to understand that college students, denied creative outlets through a stereotyped curriculum turn to destrictiveness as an alternative.

The paper concludes with some guesses about the nature of the higher cognitive (Piagetian) stages (beyond formal operations) to go with the higher Eriksonian stages. It is hypothesized that these three stages, not reached by many are respectively: creativity, psychedelia, and illumination. Each of these stages shows an increasing integration between the conscious and preconscious parts of the mind. The rarity of these stages does not diminish their theoretical importance in understanding man's potential developmental pattern. The development of superior, mentally healthy individuals thus foreshadows the course of evolutionary prograss for all mankind.

DEVELOPMENTAL STAGES
(after Erikson and Piaget)

		LATENCY	IDENTITY	CREATITY
		3 it, they	1 I, me	2 thou
		THE WORLD	THE EGO	THE OTHER
INFANT	ERIKSON	1	2	3
	PIAGET	TRUST	AUTONOMY	INITIATIVE
	MODE	SENSI-MOTOR	PRE-OPERATIONAL	INTUITIVE
	ERIKSON	NONE	IMPERATIVE	OPTATIVE
	VIRTUES	DRIVE — HOPE	SELF-CONTROL-WILLPOWER	DIRECTION-PURPOSE
	AGE	0 — 1	2 — 3	4 — 6
YOUTH	ERIKSON	4	5	6
	PIAGET	INDUSTRY	IDENTITY	INTIMACY
	MODE	CONCRETE OPERATIONS	FORMAL OPERATIONS	(CREATIVITY)
	ERIKSON	INTERROGATIVE	SUBJUNCTIVE	
	VIRTUES	METHOD-COMPETENCE	DEVOTION-FIDELITY	LOVE-AFFILIATION
	AGE		13 — 17	18 — 25
ADULT		7	8	9
	ERIKSON	GENERATIVITY	EGO-INTEGRITY	(AGAPE-LOVE)
	PIAGET	(PSYCHEDELIC	(ILLUMINATION	
	ERIKSON VIRTUES	PRODUCTION-CARE	RENUNCIATION-WISDOM	
	AGE	26 — 40?	40 — ONWARDS	

J. C. Gowan, 1971

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PROCEDURES AND PROGRAMS FOR GIFTED MINORITY STUDENTS

Co-Chairman: Jose Martinez
Caroline Towner

Panelists: Katie Blavat
Benjamin Levine

As is the case with every child at any age, each learns at his own rate; and if given the guidance and patience he needs, he will develop to his greatest potential. The kind of educational enterprise that is needed, then, is one that puts the culturally disadvantaged gifted in the center of the learning process and begins with him as the central agent.

Torrance states several misconceptions associated with the gifted child. The most important misconception revealed, particularly as it concerns the culturally disadvantaged gifted, appears to be the high value placed on verbal skills. Since most of our teaching and testing is done in the language of predominantly middle class society, the child who lacks the opportunity and stimulation for verbal intellectual growth because his meager background is inferior in performance to the middle-class child. The disadvantaged gifted child's skill development is often in disparity with his learning potential. Because of this very factor these things may occur: First, the teacher may make a formative evaluation of the child's functioning capacity on the basis of his demonstrated ability. Thereby, formulating an expectancy achievement factor that is in dissonance with the child's optimum potential. Second, the teacher may use a task performance exercise where a time termination factor may be used as an index for predicting scholastic success. This undertaking would bring the individual's educational achievement expectancy factor more in tune with his real potential. In order for a teacher to contribute effectively to the child's optimum potential and growth, she must help the child build a sense of identity and purpose. and a drive to accomplish his private goals.

In the Long Beach School System a genuine attempt is being made to satisfy the intellectual and academic needs of culturally disadvantaged gifted students. A check list on which variius indices or attributes are given based on Section 3821 of the California Education Code is used in identifying culturally disadvantaged mentally gifted minors in Long Beach. A committee at the local school level identifies the mentally gifted minors on this basis, and in some cases on other criteria which might be presented.

We have found that in the elementary school most of these children have had limited opportunities to experience what the community has to offer. We also discovered that the children used a limited vocabulary and this was an obstacle to expressing themselves freely and fluently. The programs established for these children were ones that would help them increase their vocabularies and facilitate their use of written and oral expressions. It was felt that this could best be accomplished by providing them with concrete experiences. So the programs generally involved field trips to places in the community and then follow-up activities. Several grouping patterns developed in the district. In some schools, cluster grouping of gifted pupils was predominantly used. Special activities and materials are used with them for at least 200 minutes a week. In other schools, there are clusters of children on an ungraded or multigraded basis. These children are taken out of their regular classes for 200 minutes a week to work with special materials. Additional activities are added in different schools, depending on the needs and specific interests of the children.

The psychologist's principal involvement is the identification of gifted children by individual tests. In the case of the culturally disadvantaged gifted minor the required test results frequently are too low. How can we find clues as to their potential brightness? Look at things least susceptible to experiential background. Do not make judgments on the basis of language skills. For example, look especially at learning in the field of math. Since the math curriculum covers certain processes at certain grade levels, a child's ability to benefit from this program would depend relatively more on his innate ability rather than on his background.

In one of the high schools of Long Beach the problem was approached from an entirely different point of view which has many exciting possibilities. The students themselves were asked about what their needs were and what they felt had hindered accomplishment of their goals and aspirations. One interesting comment made by the students was in asking themselves what life was all about, they kept coming up with the same answer—a busy signal. The two major points the groups came up with as problems were: 1) inability to relate to peers, and 2) intolerance for those not as bright. A Black History Culture Club was formed in which the black students acttd as tutors. They had decided that they wanted to de something that had meaning for their schoil and that would halp them in the two areas previously mentioned. It proved quite successful.

Long Beach High School culturally disadvantaged gifted students were fast to discover that there are teachers who care, teachers who demonstrate a worth and value in the disadvantaged student's welfare. It was interesting to note that once students were aware of this element of concern and interest for them by teachers, their outlook toward reality seemed to take a new appearance. They were now willing to concentrate on the use of academic endeavors as a means for enhancing their social and economic status.

Much in the area of human resources is lost each year and this loss could be prevented if only the schools would start culticating more individual talents. The goal of the educator should be that of provviding an environment in which the child is able to use and dissover his abilities and to develop them to the fullest extent possible. Too, we should want the child himself to be governed by inner determinants, rather than social or environmental ones.

INDIVIDUALIZED PROGRAMS FOR THE GIFTED

Practical Methods and Procedures of Using
Individualized Programs in the Classroom, Gr. 3-6

Moderator: Bruce DeVries, Cupertino School District

Panel Members, Cupertino School District: Miss Sallie Lillard, Miss Mary Jo Stopp, Miss Pat Malone, Mrs. Kay Davis

Individualization is something that everyone is talking about when they are interested in new methods of instruction. Through this type of learning, a child can develop independence, responsibility, and self management in the classroom as well as outside in other roles.

There are several new roles that a child should develop in order to successfully work in this program. These include self-responsibility, self-direction, cooperativeness, and decision making. The teacher also must adapt to new roles. She becomes the classroom manager, student counselor, diagnostician, and she provides for the learning facilities in the classroom.

Nimitz School in the Cupertino School District has a totally individualized class of 65 fourth, fifth, and sixth graders under the direction of Miss Malone and Mrs. Davis. The setting (shown in slides at the workshop) is a large room, complete with its own stage, its library and learning centers. There is no grade segregation; each student is working on his own program at his own speed. His work is done on a contract basis, and self-corrected. Tapes, slides, models, etc., are available to him to use when needed for his program.

There are several ways to individualize. They are the development of **contracts, learning packages**, and **learning centers.** All may be used at the same time in a classroom or they may be used separately.

A **contract** is a written agreement between a teacher and a student that defines a skill or skills to be accomplished. A contract may be planned for one day, a week, or several weeks. It may be designed for one subject or several. Most contracts include stated, desired behavioral objectives for each skill that is to be learned. It is important that and adequate feedback between the student and the teacher takes place throughout the learning period.

A **learning package** is designed to teach a specific skill. The main idea is stated as the title, the specific skill is given in a form such as, "You will be able to . . . " Detailed instructions are given to the child and the learning activities follow. The child is frequently given a choice of learning activities. Following each lesson, the child can give himself a self test. The learning package always includes a pre and post test.

Learning centers provide the child with a wide variety of alternatives, both in difficulty and range of experiences, and they should be dropped or changed as the interest in them seems to wane, or when the project has been cotpleted.

Centers can be arranged by grouping children's desks together, using large tables, orange crates, or whatever can be provided. Some ideas might include: a library center, writing center, research center, investigation center, sharing center, art center, math center, and skill game center. Each center should have everything necessary for the construction or manipulation of the child. This has been one of the most successful ways to individualize.

All three of these methods of learning can help make your classroom a more stimulating and exciting place to learn.

* * *

INDEPENDENT WORK CENTERS

A Means for Individualizing

A variety of independent work centers provides many opportunities for children to exercise some responsibility for their own learning at their own pace. Various methods of organizing them and allowing children to select and move around the centers are possible, depending upon your objectives and the age of maturity of the children.

Most centers should provide a wide variety of alternatives, both in difficulty and range of experiences, and they should be dropped or changed as the interest in them seems to wane, or when the project has been completed.

Centers can be arranged by grouping children's desks together, using large tables, orange crates, brick and board counter, large boxes, or whatever your own ingenuity can provide.
Ideas for center might include:

1. **The Library Center**—Various types of library books with many ranges of ability and a good selection of different children's magazines and newspapers, programmed reading material, a rug to sit on, a rocking chair, or some floor cushions, flash cards of vocabulary words, word games. These later might be in a skill center.
2. **The Writing Center** — Writing materials and spare drawing paper and crayons, chalkboard, writing suggestion box, picture file large hanging dictionary or alphabetized word box, published dictionaries. Interest objects to write about; an old shoe, a coin collection, an empty birdnest. A typewriter, if possible. Books and stories that children have written. Story starters.
3. **The Research Center**—Informational books, dictionaries, magazines, picture collections, writing materials and writing space, bulletin boards to display written reports, charts, maps and other creations. Or these could be dispersed among other centers but available for independent use.
4. **The Investigation Center**—Science books, science materials: magnifying glass, microscope, scales, magnets, batteries, wiring, etc. Water color paints, fish and live animals, exhibits and collections.
5. **The sharing Center**—An area set aside for children to display projects, collections, special findings, etc.
6. **The Art Center**—Painting materials, area to dry and display art work, clay table, special project table.

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7. **Math Center**—Manipulative objects, flash cards, skill games, puzzles, a selection of math books to choose problems from math mystery box, cards with problems on them. Rulers, scale, measuring cups and spoons, toy money, checks, small chalkboards.
8. **Skill Game Center**—A large selection of skill games that the children have been taught to play, a rug or table for playing games, scratch paper and pencils for keeping score.
9. **Drama Center**—A flannel board, puppet theater, old clothes, books on plays and puppets, copies of short stories. Puppets and materials for making more.
10. **Construction Center**—Building tools, construction paper, clip board, measuring equipment, paints, glue, scissors.
11. **Listening Center**—Earphones and listening post, record player, tape recorder, radio, records, tapes, writing materials.
12. **Viewing Center** — Film strip projector, film strips, individual viewers, movie projector, listening post, writing materials. (This works well inside a refrigerator carton, the knee hole of the desk, or some place secluded.)
13. **Social Studies Center**—Books on unit being studied, questions made out by class, pictures and realia, writing materials, materials for constructing small projects—dioramas, peep boxes, murals, etc.
14. **Needlecraft Center**—Sewing box, large rolls of cloth, scissors, measuring tapes, knitting needles, yarn, "Learn How" books.
15. **Music Center** — Rhythm instruments, bells, drum, ukelele, small organ, sheets of easy to play music, music books.
16. **Recording Center**—Tape recorder, microphone, tapes, direction on chart.
17. **Poetry Center** — Books of poems, display of poems written by children, rhyming word games, lists of words, writing materials, picture file.
18. **Living Things Center**—A table or counter for keeping small animals, terrarium and aquarium, plants, pictures of living things, books, fish.
19. **Sound Center**—Phonics games, anagrama, bulletin board displaying alphabet, blends, etc. Workbook or ditto pages with self-correct language master, mirror so children can say sounds and watch their mouths.
20. **News Center**—Bulletin Board space for children to display articles of interest from newspapers and magazines. Chalkboard to write news of the day. Writing materials to write own news articles.
21. **Invention Center**—Junk box, dismantled items to be reassembled, clocks or other castoffs to be taken apart. Rules for safety, etc.
22. **Retreat Corner**—A place for children to get hold of themselves. Include crayons and paper for scribbling, clay, a punch ball or clown, a book or something to take their minds off themselves.

* * *

Today's children, in order to live and work in our world of the future, need to develop creativity, self-management, self-direction, independence, sensitivity to their fellow man and critical thinking abilities. Instruction needs to be more individualized and less punitive and the children need to enjoy learning.

The "Learning Centers" are divided in the following manner: a Science Center, a Math Center, a Reading Center, a Social Studies Center, and a Writing Center. Each center has basic supplies (i.e. pencils, erasers, scissors, crayons, paste) plus realia, books, A.V. equipment, exploratory materials, and charts or other appropriate teaching aids.

At first, one might think this is simply a classroom situation where there are lots of independent activities for the children to do when their work is finished. But there are many differences. None of the children have their "own" desks, stuffed full of "their" things. In a Learning Center room, the only thing that **belongs** to a student is his 4"x6" "mailbox" in which his work is returned to him, and it is his responsibility to check his mailbox daily to see that he takes home his work and notices. All other equipment is shared. Pencils, etc., are available in cans on top of the tables for use when necessary. It is not **"my"** deck in the teacher's room, but **"our"** equipment in **"our"** classroom.

Secondly, the role of the teacher changes to one of providing assistance to individuals while they pursue projects of their own choosing. **Essential** to this changed role, however, is a carefully planned development program so that the Learning Center work does not degenerate into a "play time." This means that each week, as the teacher selects the materials and projects to make available at each Learning Center, she must design them carefully so that necessary skill will be developed in sequence, and so that the student who wishes to pursue a skill in depth will be able to do so. Actually, this is readily done simply by following curriculum guides as you would ordinarily do.

A third major difference in this method is that most lessons are taught **after** the student has done some work on the concepts on his own, using an industive method. For example, if the Science Lesson one week happened to be "Plants Come from Seeds," the Learning Center would be set up on Monday with dirt, seeds, resource books, opened to appropriate pages, a chart hanging on the wall next to the table, and perhaps a film strip projector with a film strip on seeds ready to view. From Monday through Thursday, the students would be encouraged to find out how seeds grow into plants by reading about them and planting them. My method of "encouragement" consists of a folder with a contract stapled on the front listing expected accomplishments for the week and leaving space for additional projects to be listed if they are well executed or are useful to the student in developing his skills. This enables the parents and the students to see what is being done in class, and it gives the students a sense of direction.

On Wednesday after school, the children's drawings of plants growing or diagrams of seeds, etc., would be removed by the teacher from their folders and arranged on a chart. The teacher would then plan a lesson using the students' work and projects as a basis for discussion. On Thursday, the class would talk about their findings. Which ones were important? Who was most correct? What has been

discovered? And, now that the children are involved through their work in the concepts, the teacher can build on them and add to them to complete the lesson.

Motivation, interest, involvement, attention, and concentration are high. Learning has taken place through experience and through critical, inductive thinking.

Other important differences in the Learning Center approach are in classroom management. We have found the following system to be the most successful. At the beginning of each time segment, we meet as a class briefly to review standards, if necessary, to make suggestions, or to motivate some of the more difficult activities. We pass out the folders, and one by one, the students choose a seat and begin working. If they finish all the projects at that Center, they are allowed to get supplies and equipment from another Center, but they must return to their original seat to work. They change Center only after a clean-up and at the beginning of a new time segment, usually after a recess.

The Learning Center approach allows the student to choose **how** and **when** he will develop skills and concepts. The teacher determines **what** skills and concepts are to be developed. If a student chooses not to work at a Learning Center where an **essential** skill or concept is to be developed, the teacher makes it clear that she will assign the time and methed for the work to be accomplished the following week.

What results can you expect from the Learning Center approach? We found learning took place at a faster rate; enthusiasm for learning was never lost; permancy of learning was more evident; and the students were now more confident, independent and self reliant. They were better equipped to live and work successfully as adolescents and adults.

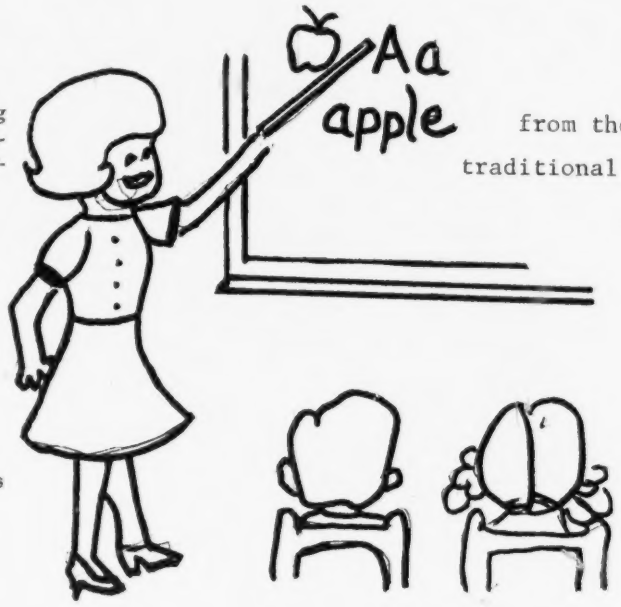
WHAT ARE LEARNING CENTERS?

Learning Centers provide a means for developing the ability to solve problems creatively through individual experiences in exploration and problem solving.

This guide offers:

1. room environment suggestions
2. materials that can be used
3. time schedule possibilities
4. sample lesson plans

It can be adaptable for all teachers and all groups of children.



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WHAT CAN LEARNING CENTERS DO FOR CHILDREN?

DEVELOP: —self management

—self direction

—independence

—creativity

—sensitivity to others

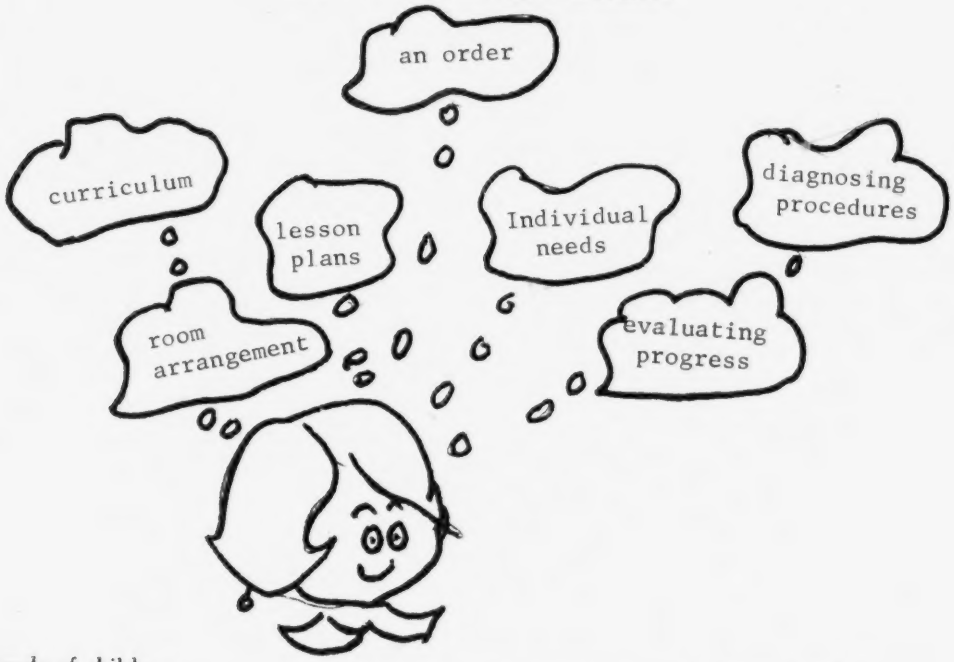
—critical, reflective thinking
longer attention span

—better concentration

—skills in a sequential manner

—greater academic understanding

HOW DO TEACHERS START?



—evaluate needs of children

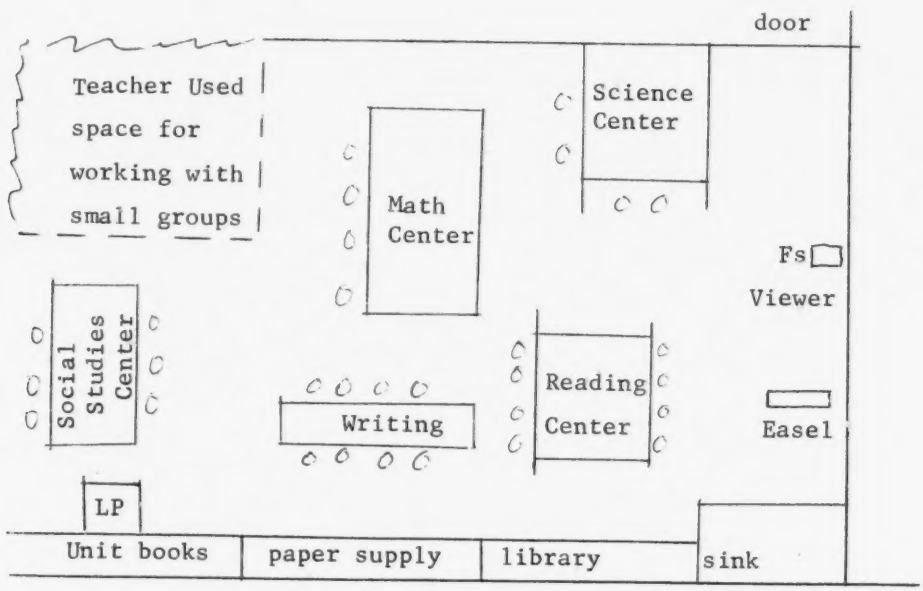
—establish goals to determine centers that are needed

—plan a sequential development of skills to meet established goals

—organize room in a functional manner

—develop a time schedule to include "Learning Centers" program

—determine materials that will be needed



HOW DO TEACHERS ORGANIZE THE ROOM?

—arrange furniture to form centers

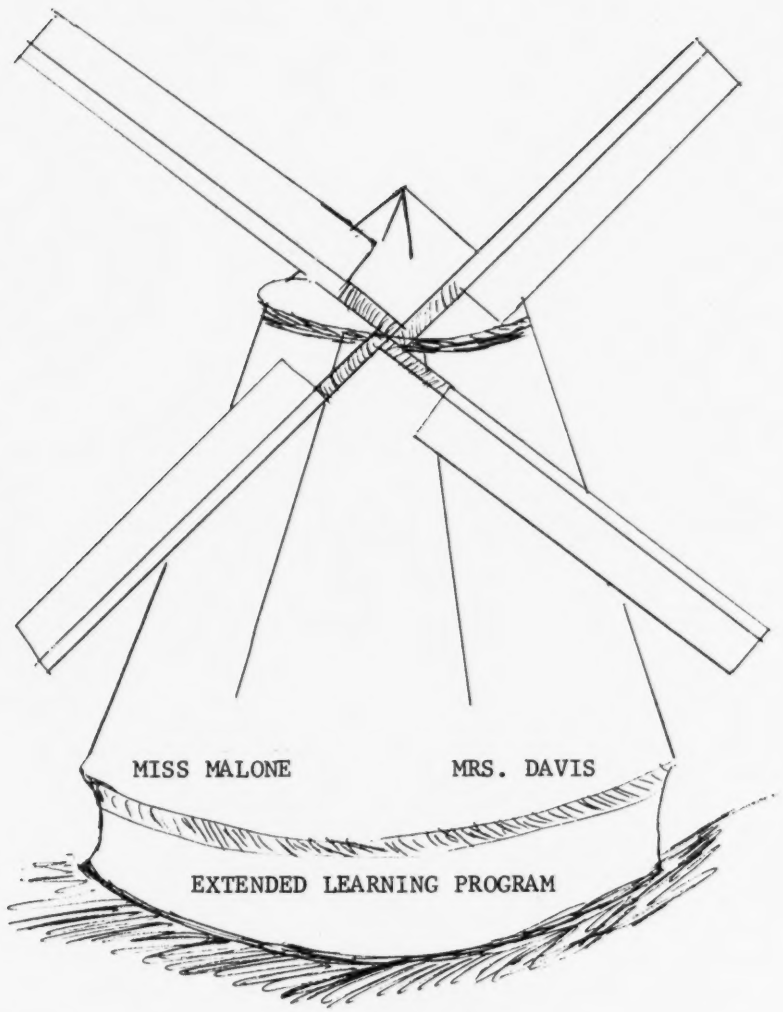
—distribute basic supplies to centers

—display motivational and functional bulletin boards

—provide necessary audio-visual equipment

—obtain resource books from library

—provide a place for each child to pick up his corrected work and notices to go home



MINITE SCHOOL
CUPERTINO SCHOOL DISTRICT
SUNNYVALE, CALIF.

CONTRACT: _____ **WEEK:** _____ **NAME** _____

READING

WB PAGES _____

OTHER _____ ☐

MATH

PAGES _____

OTHER _____ ☐

LANGUAGE

CONTRACT # _____ # _____ # _____

OTHER _____ ☐

SPELLING

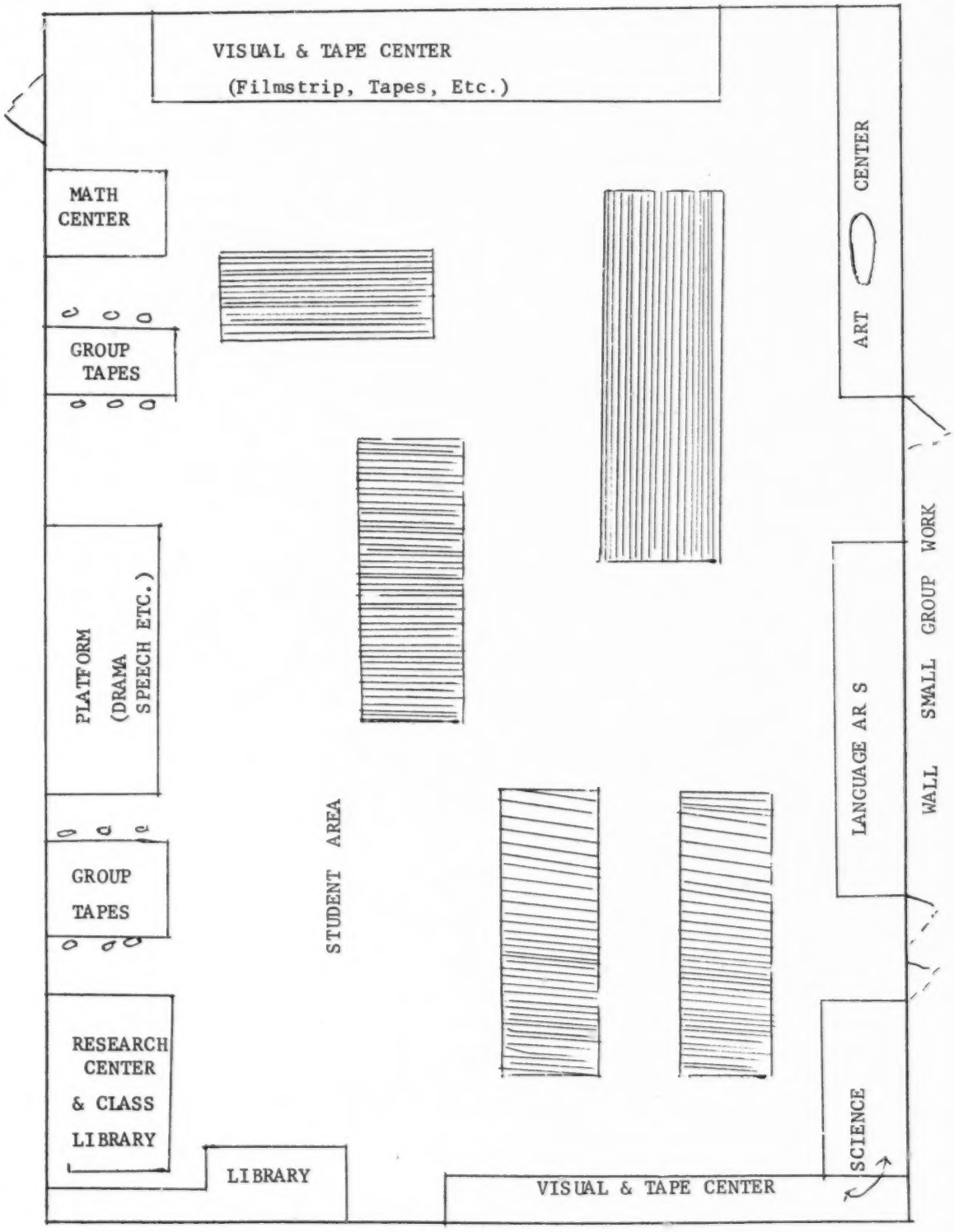
UNIT # _____ PAGES _____

OTHER _____ ☐

SOCIAL STUDIES _____ ☐

SCIENCE _____ ☐

I HAVE COMPLETED ALL MY WORK. YES NO


VISUAL & TAPE CENTER
(Filmstrip, Tapes, Etc.)
MATH CENTER
GROUP TAPES
PLATFORM (DRAMA SPEECH ETC.)
GROUP TAPES
RESEARCH CENTER & CLASS LIBRARY
LIBRARY
STUDENT AREA
ART CENTER
LANGUAGE AR S
WALL SMALL GROUP WORK
SCIENCE
VISUAL & TAPE CENTER

37

Name _____ Team _____ Teacher _____ Quarter 1 2 3 4 Year 19__

SUBJECT — ACHIEVEMENT LEVEL

	2-1	2-2	3-1	3-2	4-1	4-2	5-1	5-2	6-1	6-2	7-1	7-2	+
READING													
SPELLING													
WRITTEN ENGLISH													
MATHEMATICS													

EFFORT

1	2	3	4

SOCIAL SCIENCE (history, geography)
Major concepts taught this quarter: _____

	1	2	3	4
Ach.				
Eff.				

Work expected this quarter
__Notebook __Oral report(s)
__Discussion __Note-taking
__Worksheets __Map(s)
__Tests __Outlining
__ _____ __ _____

SCIENCE
Major concepts taught this quarter: _____

	1	2	3	4
Ach.				
Eff.				

Work expected this quarter:
__Notebook __Oral report(s)
__Discussion __Note-taking
__Worksheets __Experiments
__Tests
__ _____ __ _____

	1	2	3	4
PHYSICAL EDUCATION	__	__	__	__
ART	__	__	__	__
HANDWRITING	__	__	__	__
MUSIC	__	__	__	__
ORAL LANGUAGE	__	__	__	__
SELF CONTROL	__	__	__	__
LISTENING	__	__	__	__

	1	2	3	4
PLANNING FOR SELF	__	__	__	__
RESPECT FOR ADULTS	__	__	__	__
RESPECT FOR PEERS	__	__	__	__
NEATNESS IN WORK	__	__	__	__
GROUP WORK	__	__	__	__
RESEARCH SKILLS	__	__	__	__

COMMENTS: _____

Meaning of marks:
O-Outstanding S-Satisfactory
U-Unsatisfactory
3-1-3rd grade, first half
3-2-3rd grade, second half

Work expected:
✓ Expected and completed
N Not satisfactorily completed

THE PLACEMENT OF THE NUMERAL ON EACH ACHIEVEMENT GRAPH SHOWS THE STUDENT'S LEVEL AT THE END OF THE QUARTER.

Teacher

This is the cover sheet for the Student's Section of his learning package.

THIS SECTION FOR STUDENT USE

_____

(title)

This should be an attention getter; it does not have to be the same as the idea, skill, or attitude.

CONSTRUCTION

Major Idea, Skill, or Attitude to be learned. One sentence is usually sufficient; however, it usually communicates better if it can stand alone and is of a positive nature.

_____

_____

_____

Component Ideas, Skills, or Attitudes

A component is an essential element which, when united with other components, further identifies the major idea, skill, or attitude to be learned.

List as many components as are required to support the major idea, skill, or attitude. Usually there are at least three components, but not usually more than five or six.

1. _____
2. _____
3. _____
4. _____
5. _____

Learning Objectives

The learning objectives should be stated in behavioral terms and usually contain three elements:

1: The performance expected of the learner.

2. The conditions under which the performance will take place; and

3. The proficiency level expected of the learner.

The number of objectives is determined by the producer. Usually, there will be at least one objective for each component idea, skill, or attntude to be learned.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

Pre-Evaluation

(or Post-evaluation, the form is the same)

Purpose: _____

Instluctions: _____

1. _____
2. _____
3. _____

etc.

PRE-EVALUATION

(or Post-Evaluation, the form is the same)

Purpose of the Pre-Evaluation (or Post-Evaluation)

Explain to the learner why he is taking the pre-post-evaluation. The learner should be made aware of the relationship between this evaluation instrument and the Learning Objectives. In the case of the pre-evaluation, he should be encouraged to view the test as a method of gathering information about how he is to proceed through the learning package, not as an instrument to be graded or one that is PASS/FAIL.

Instructions

This must be specific. It tells the learner exactly how to proceed, what functions he must perform, whether to score the test himself, (if so, tell him the location of the key) or if he should consult with his teacher about the results.

Body of the Test

The pre or post evaluation should measure achievement of the learning objects and allow for determination of the extent to which the student understands the major and/or component ideas, skills, or attitudes to be learned.

The usual format for a pre-evaluation would evaluate all the component parts. However, another suggested format is to construct the pre-evaluation in sections so that a correlation between the component idea, skill, or attitude, the associated learning objectives and the specific part of the pre-evaluation can be determined. It may be designed to allow the learner and/or the teacher to select only those lessons that require the learner's time. If the learner has already achieved an objective, that part of the learning package could be ignored.

IN SOME LEARNING PACKAGES THE PRE- AND POST-EVALUATIONS ARE THE SAME, BUT USUALLY THEY MEASURE THE SAME THINGS, USING DIFFERENT TEST INGREDIENTS.

The keys to the pre- and post-evaluations are usually contained in the teacher's section.

* * *

LESSON(S)

Number the lesson(s) according to need; usually, there is a lesson for each component.

Component:

The specific component idea, skill, or attitude selected as the central theme of this lesson would be stated for the learner. Depending on the learner's ability level, the statement may or may not be a repeat of what was expressed in the teacher's section.

Objective:

The specific learning objective(s) to match the component as stated above would be presented. Student ability level considerations apply as above.

Instructions:

Be specific, indicate exactly what the learner is to do.

The learner may not need to do every learning activity suggested, or he may be required to do some activities, while other activities would be optional alternatives from which he may choose based on what he and/or the teacher feel will help him achieve the learning objectives.

Inform the learner to proceed to the self-evaluation at the end of each lesson when he believes he is ready. He should correct or have a fellow student correct his evaluation. When he has passed the self-evaluation, the learner should proceed to the next lesson or ask the teacher for the post-evaluation. If the learner fails the self-evaluation, he must continue the learning activities.

Learning Activities:

Place and emphasize the one word that best describes the learning activity before the number of each activity. The activity should contain the necessary instructions for the student to work without interrupting the teacher for additional instructions.

If the materials or media is teacher-produced, it should be included in the activity. However, if the materials or media used in the activity is commercially prepared, the learner should be referred to the title, chapter, page number, or film title.

Some examples of materials, media, and instructional groups are:

Materials: For example—textbooks, periodicals, programmed texts, pamphlets, etc.

Media: For example—films, filmstrips, records, tape recordings, 8 mm single concept loops, video tape recordings, study prints, etc.

Instructional Groups: Small group activity, i.e., brainstorming; large group whert media is used; teacher-pupil conference; research in the learning resource center or in-depth activity.

;* * *

LESSON I

Component: _____

Objective: _____

Instructions: _____

LEARNING ACTIVITIES

CONSTRUCT: (Instructions for proceeding with each activity must be incluled.)
READ:
LISTEN:
DISCUSS:
LOOK:
ILLUSTRATE:
BUILD:
TEACH:
DESIGN:
PAINT:
ETC.

SELF-EVALUATION: _____

(The key to the self-evaluation should be made as convenient as possible to the student for self-checking—below, on the next page, etc.)

This can be an activity, an experiment, an exercise, or questions to be answered. Some method of self-checking should be provided. If the producer desires, the self-evaluation can be combined for two lessons. In that case, the self-evaluation would be at the conclusion of the second lesson.

* * *

QUEST OPPORTUNITIES

Suggestions should be made for those students who desire to continue exploration of other ideas, skills, or attitudes to be learned which were stimulated by this learning package. Items listed should be presented as SUGGESTIONS, and should be worded to indicate they are.

Write only one or two quest activities, but indicate to the student he should identify his own quest activity. REMEMBER, the student should NOT be graded on his quest because he has already completed the post-evaluation. The quest should deal with related ideas. **NOT** the one taught by your learning package.

1. _____

2. _____

3. Or anything else that interests you. Check with your teacher.

* * *

STUDENT EVALUATION FORM

Write a brief questionnaire to be completed by the student. The student answers will assist you in completing your evaluation of this learning package.

Introduction

In order to effectively individualize instruction, changes in the planning system for teachers are required. Learning packages are a modification designed to achieve these changes. Basically, learning packages accomplish four tasks for the school system:

1. For the students—They provide a set of directions to achieve some pre-defined objective.

2. For the teachers — They assure individualized learning systems which can be used by the majority of students.

3. For the administrators—They provide an organized and manageable process to achieve a prescribed curriculum.

4. For the community—They will more surely provide graduates with specific competencies, who can make decisions, and who are at their own maximum level of achievement.

STEPS THAT LEAD TO LEARNING PACKAGE DEVELOPMENT

1. The development of an attitude about the need for an individualized system with continued prigress.

2. The construction of learning packages in a specified sequence of topics.

3. The development of other parts of the school to allow for the implementation of a learning package program.

CONSTRUCTION OF LEARNING PACKAGES

Learning packages are an extension of the units commonly written by teachers for use with groups of students. Two major differences are that learning packages are (1) written for and to students, and (2) smaller learnable ideas.

PROGRAM DEVELOPMENT IN OTHER AREAS

The learning package is only a vehicle to achieve the goal of individualized instruction. Further, individualization is necessary for a continuous progress program to develop. It must be clearly understood, however, that many other parts of the educational program either **must be** or **may** be as the learning package program develops.

1. Teaching Teams. As more students are more spread out across subject areas, there is an increased amount of individual attention needed for each learner. Many schools have found it advantageous to use groups of people to instruct a set of students. These teams might include experienced teachers, student teachers, parent aides, clerical aides, and student aides, all with different roles to play in the group.

2. Open Space Facilities. The standard classroom is designed for group-paced, teacher-directed instruction. Facility needs for learned spaced and objective-directed instructions include an independent study area, a small group discussion area, a testing center, a large group room, and the normal set of administrative and special instructional facilities. Perhaps the most effective building plan for future schools will be along the linest of a carpeted warehouse!

3. Flexible Time. As the instructional activities are individualized, so also must be the learner's schedule. The typical flexible schedule is usually not flexible on a day-to-day basis. It has been shown that large blocks of time are most satisfactory for students if they have the freedom to move to different areas of the building.

4. Variety of Materials. The textbook will become the dinosaur of instructional materials. Needed with the learning package program are a large total number of materials, with a few examples of different authors, points of view, and reading levels. In addition to the reading materials would be films, filmstrips, audio tapes, and any other device that can communicate ideas (including informed people!).

5. Other Management Systems. Many organizational practices are designed specifically for a non-continuous progress program. Report cards, Carnegie Units, lesson plans, transcripts, and "courses" are examples of these practices. As a more individualized program develops, each of these management practices must be carefully examined, and adapted to implement the new philosophy.

What Can Teachers Expect?

—That there will be a workable noise level which will not interfere with progress.

—That the children will become more responsible.

—That some lessons will be a result of spontaneous enthusiasm.

—That academic and social skills will develop at a faster rate.

How Can Learning Experiences Be Evaluated?

—Spot evaluation.

—Set aside about fifteen minutes at the end of the day.

—Children share projects or tell about discoveries or experiences.

—Discuss value of experiences and use of time.

—Discuss problems that may have arisen.

—Talk about suggestions for completing contract requirements.

How Can Teachers Motivate Children to Fulfill Their Contracts?

—Provide a special interest activity.

—Allow children to be class monitors.

—Give an achievement award (e.g., certificate, badge).

—Allow children to assist classmates with contract work.

—Prepare a bulletin board for recognition.

SUM'R GOOD

Bonnie Deming

SUMMARY: Educational provisions for the gifted student are a consequence of a philosophical commitment to provide every student with educational opportunities suited to his level of ability. Among the benefits and opportunities felt to be desired for the gifted child are curricula flexible enough to meet the needs of the individual methods of study that are stimulating and challenging; and an emphasis on learning that utilizes the resources in the school, the home, and the community. In these programs the gifted student is assured a strong basic curriculum at each grade level with additional enrichment during the regular school year.

In the Summer, a six-week program of highly individualized enrichment is offered to all state and city identified gifted children in San Diego City Schools to add even a greater dimension and unity to learning. Children are invited to participate in any two of the diverse programs provided for at one of eight schools where a regular Summer School Program is going on. Parents take complete responsibility for attendance and transportation. Two, two-hour blocks of time are arranged for in-depth experiences at each center.

A slide presentation covering most of the Summer School classes for the gifted shows the unique and divergent program as it is. Highlights from San Diego include:

Musical Comedy and Creative Dramatics
Art Activities with Clay and Paper Mache
Shakespearean Theater and Theater Workshop
Oceanography
German Language and Culture
Puppet and Puppet Theater
Children's Literature
Guitar and Folk Singing
Science, Mathematics, and Logic
Enjoying Good Books
Art and Music Appreciation
Anthropology
Medieval and Renaissance Man
Drama Workshop
Biology
Math Lab Workshop
Piano
Creative Expression through Environmental Awareness
Typing
Instrumental Music
Etc.

SUM'R BETTER

Charlotte Morrison

Postman and Weingartner originated the Vaccination Theory of Education in, **Teaching as a Subversive Activity**. "A subject is something you 'take' and when you have taken it, you have 'had' it, and if you have 'had' it, you are immune and need not take it again." This seems to be the philosophy in much education of gifted, where the recall of random facts is often thought to be the highest form of intellectual achievement. It is strange that we should feel the necessity to plan increasingly sophisticated ways to promote the absorption of miscellaneous information but fail to recognize the need to provide for training and practice in the use of the information.

There are a number of techniques that can be incorporated into the curriculum to encourage development of the use of information. Inquiry training is a step in the right direction—as long as we remember that it is the process of inquiry that we are teaching, with the answer to the problem of the mement being no more than a side issue. The true purpose of inquiry is to help learners increase their competence as learners with questions being the instruments of perception. Thus, it is through inquiry that the learner becomes more able to identify the real problem to be solved.

Further practice in the use of information is dependent upon the learner having confidence in his own ability to learn and to produce. He needs to be in a school environment which allows him to have success in carrying out his own projects, either by himself or with the cooperation of his peers. A project which is tightly controlled by the teacher may be more polished or sophisticated than a student-planned one, but too much teacher-direction robs the student of an opportunity to develop his own independence. The proper role of the teacher, that of a resource person, allows the student to have confidence in his own ability to learn, to determine what is really relevant to his given situation, to rely on his own judgment and to have the freedom to adjust his original hypothesis to fit his changing concept of the problem. Failure to have freedom to modify the project as it progresses is an inhibitor to creativity. Experiences with the process of project development include identification, modification, evaluation and presentation of the project.

Change is the most striking characteristic of our world today and to deal adequately with change we must not insist upon pre-mature closure — a neat little solution for every situation. Once we have closure, once we judge someone or something, we tend to stop thinking about him or it. It is necessary to allow certain situations to remain open-ended and to learn to be comfortable with them this way. Today's world demands the ability to generate viable, possible solutions to problems.

Simultation activities give students the opportunity to develop feasible solutions and follow-up to realistic problems. The necessity to adjust the plan of attack as the situation demands, may be the most valuable part of simulation activities. With the proper teacher and a problem to which the students can relate, simulation games can be set up within the classroom. Once again, the role of the teacher must be clearly stated as that of a resource person, with students practicing life-like roles within the safety of the classroom.

We hear a lot of talk about relevant curriculum but find it hard to define what relevant curriculum really is.

are becoming increasingly sensitive to which programs are appealing to young people.

Youth organizations, with volunteer participants,

but being appealing to young people is not the only criterion for relevance. The teacher who is learner and problem oriented may find that curriculum, as it has been written in the past, is far from being relevant to the student.

Curriculum writing might be improved if it were limited to indicating the behaviors desired, with the teacher being directed to provide the setting to achieve these behaviors.

Let's dream a bit—what if a summer school teacher's assignment were to provide the place, the support and the resources so that each child in the group could carry out a project of his own choosing and develop it to a point of excellence that would be satisfying to him? Just that. This would leave the child free to determine for himself the point at which his effort and the results of his endeavor were balanced. He might even decide to abort certain projects. The teacher would be able to encourage more sophisticated approaches to some problems by posing unanswered questions as, "What if . . . ? Then what? Why?" The anticipated difficulty in getting children started on such projects amply points out the need for starting this kind of training early.

Curriculum, such as this, would require a shift from a prime objective of storage and retrieval of much miscellaneous information to a prime objective of process skills and basic skills working hand in hand. Then the student could be seen as being prepared to work in a world of change where he must be able to generate processes that are adequate to deal with life situations of the present an the future.

Norbert Wiener in, **The Human Use of Human Beings,** says, "We have modified our environment so radically that we must now modify ourselves in order to exist in this new environment."

The old ways are no linger adequate.

TOOLS FOR CHANGE

by Christopher Thorsons

Interaction Associates, Incorporated, has been working in the Berkeley public school system under a Carnegie grant developing and testing Tools for Change, a basic course in problem-solving. **Tools for Change** is a course in learning how to learn, focusing on the "how" rather than the "what" of the education process. It's base is a list of some sixty processes which forms a common language for sharing and discussing individual problem-solving strategies.

Over the last year and a half seven experimental classes at the 6th, 9th and graduate school levels were conducted to test the basic assumptions that follow:

1. That there are some basic thought processes common to all.
2. That individuals have a process bias.
3. That by becoming aware of their own processes and process bias, students can become more productive, flexible thinkers, more self-confident and more self-directed.
4. That by externalizing and sharing their thought processes, students may become resources to each other and the education community at large.

Group problem-solving, games, puzzles and problems, camping trips and individual projects were used as initial contexts within which to focus on particular processes. These contexts were used because they pose little threat and offer the student a chance to see his own processes in action. Subsequently, connections were made to academic subjects and everyday life activities.

While the classes seemed to verify most of the assumptions, several important questions emerged. These relate to such things as:

1. The level of abstraction appropriate to different age levels.
2. The advantages and disadvantages of using a pre-established vocabulary.
3. The usefulness of another compartmentalized class.
4. The most meaningful ratio between doing (problem-solving) and talking about doing (eternalizing, sharing).
5. The difficulties of evaluating such a course, particularly regarding transfer.

As a result of this study, Interaction is now directing its energies towards the following:

1. Designing new techniques to help students externalize their thinking.
2. Integrating **Tools for Change** with the regular academic subjects.
3. Implementing a teacher training program at West Campus, Berkeley, and Seramonte and Jefferson High Schools, San Francisco, for which they recently received a two-year continuation grant from Carnegie.
4. Developing a "Directory of Heuristics," a general reference of processes including definitions and examples.
5. Developing a "Directory of Experiences," a collection of useful and meaningful activities for a process-oriented classroom.

A CREATIVE CURRICULUM

Linda Schwartz
A. T. Teacher, Torrance USD

Illustrated herein is a booklet compiled for distribution in my workshop, "A Creative Curriculum." I have prepared sixty booklets and will have these available for participants at the conclusion of my workshop.

In addition, I plan to present practical and creative ideas that teachers and administrators can take back to their schools and incorporate in their curriculum. My presentation will include examples of work completed by gifted students from my classes. Just a sample of some of the ideas I plan to present include the folliwing:

Social Studies -- Science

TOOTSIE-ROLL STOCK EXCHANGE — A unique approach to a study of the stock market, its function, and operation. Students select a stock, plot its closing price daily, and may sell at any time. Students are then paid off in Tootsie Rolls for each point their stock advances at selling or pay the teache. for each point the stock declines.

CREATIVE GAMES—An ideal way to combine creativity, learning, and fun. Students pick a topic and create a game complete with playing board, rules, objectives, etc., for other members of the class to play.

BELIEVE-IT-OR-NOT BOXES—Students working on individual studies decorate a shoe box according to the theme of their topic, such as Africa, the Civil War, etc. A contest is then held to see who can fill their box with the most interesting facts for others in the class to share.

CREATIVE SONGS—Students are encouraged to write original songs using social studies or science facts and putting them to current hit tunes. Songs are then taped for others to learn and share.

CREATIVE WRITING

CREATE-A-WORD—Students "invent" a new word and then have fun either making a mobile to illustrate their word or drawing a picture.

BOOK FAIR—Gifted students become authors when they interview students in a younger grade and write, illustrate, and dedicate a book especially for a given child.

My workshop includes many other ideas, such as geometric thread designs, geoboard puzzles for math, light-bulb puppets for dramatization, collective class poems, formats for individualized instruction and many more. In addition, various educational games, books, and materials were on display that are ideally suited for the gifted.

CREATIVE WRITING IDEAS

1. Imagine that you are a football cleat on the shoe of a famous player, or the T.V. antenna on the Empire State Building, or a propeller on a great ocean liner, or a saddle on a famous rodeo bronco, or anything you want. Write a story telling what it is like to be the thing you imagine.

2. Monkeys have tails. Leopards have spots. Elephants have wrinkled skin. Leaves turn red in the fall. Why????? Try to write a humorous and non-scientific explanation for some phenomenon of nature.

3. One day while you are sitting in this class, some strange time warp hurls you into the year 2000. What do you see? What do you do? You are there for a day and then return to the present. Give the class a report or what has happened.

4. Who is the most interesting or wonderful or influential person you know? Write a character sketch of the person. Make the reader feel his or her personality as you feel it. Use specific illustrations rather than general things or terms such as nice or funny. Paint your portrait so vividly that the person will come to life in your words.

5. Create your own daffy definition after examining the examples:
   A baby sitter is a person who is paid for watching T.V.
   A report card is a device for boosting parental blood pressure.

6. Write a mood piece about a city street at dusk, an empty football stadium, a late ride on a crowded bus, a deserted beach; anything that arouses a strong mood in your own imagination. Use descriptive words to reinforce the idea you want to get across. Create your scene by use of details, and don't forget to include sights, smells, and sounds that will bring to life the picture you want to create.

7. What would your life be like if your body were completely flat? Turned sideways, you would have no shadow. You might easily slide under closed doors. You could tie a string to your belt and have friends fly you like a kite. Of course, you could eat only flat meals of pancakes and wafers. What other strange conditions would you meet? Once you have listed as many as you can think of, write a story about someone who is flat.

8. A knife with peanut butter on it. A red spot on the floor. A dog with a leash sitting by the red spot. Write a story that makes use of all three of these things.

9. Write a story (humorous or serious) in which a young person learns an important lesson about life.

10. Draw a circle on a piece of paper. Place an X in the center of the circle. Draw two triangles above the circle. Draw three squares at the bottom of the circle. Shade in ¼ of the circle. Now write a creative story about your drawing.

11. Choose one of the settings below and use your imagination to write a description of the place at the time indicated:
    A classroom in the year 2000 A.D.
    A construction site after the workers have left.
    A farm at sunset.
    A campsite by firelight.
    A factory going full blast at 2 p.m.
    A rocky shore at sundown.
    A colonial cabin in 1569.
    A freeway at rush hour.

12. Write a **swifty** by matching an adverb with an action and thus forming a self-descriptive sentence. Study the following examples. Then sharpen your pencil and begin (said Miss Schwartz pointedly).
    "I broke my leg," said Tom Lameley.
    "Here comes the steam roller," said Tom Flatly.
    "I'll see if I can dig something up for you," said Tom Gravely.

13. Write an occupational swifty. Study the examples and see how many other examples you can add to the list (said the mathematician).
    "I'm fed up with this," said the cook.
    "You hit the nail on the head," said the carpenter.
    "That was a close shave," said the barber.

14. Write a chopper. In this game you take a single word and chop it into parts that would make a recognizable name. Study the examples and make up your own.
    Pa Strami is the senior member of the Italian delegation. Other representatives include Mac A. Roni and Madam Minnie Stroni.

BRAINSTORMING A THEME

Write everything that you can think of that is associated with "It Really Bugs Me" on the lines provided. Select the idea you like best and write a topic sentence about it on the bottom of this sheet. Then on another sheet of paper write a composition starting with and about your topic sentence.

IT REALLY BUGS ME . . . .

TOPIC SENTENCE

_____

_____

SIX STEPS TO PAINLESS POETRY

STEP One: Write down a subject such as friendship, football, gossip, school — anything you want to talk about.

STEP TWO: Now, on the line under this first word, write the persons or things you associate with this topic.

STEP THREE: Write three words that describe the persons or things mentioned on line two.

STEP FOUR: Write three actions connected with the persons or things on line two.

STEP FIVE: Write either a time or a place associated with line two.

STEP SIX: Write your comment on the whole thing.

Below is a list of topics to get things going; also study the examples. Now have fun and create a poem on your own, but don't feel you're limited by the list of topics or by the examples. You can change the subject and the plan as the poet in you desires. The steps you take are your own.

TOPICS: Communication, Competition, Anger, Joy, Childhood, Honesty . . .

EXAMPLES: **WAR**
Soldiers
Skilled, wounded, going in
Fighting, crying, killing
Tomorrow and tomorrow.
The end?

THE DUEL
by Eugene Field

The gingham dog and the calico cat
Side by side on the table sat;
'Twas half-past twelve, and what do you think!
Not one nor the other had slept a wink.
The old Dutch clock and the Chinese plate
Appeared to know as sure as fate
There was going to be a terrible spat.
(I wasn't there; I simply state
What was told to me by the Chinese plate!)

The Gingham dog went, bow-wow-wow!
The Calico cat replied, me-ow!
The air was littered an hour or so
With bits of gingham and calico.
While the old Dutch clock in the chimney place
Up with its hands before its face,
For it always dreaded a family row!
(Now mind: I'm only telling you
What the old Dutch clock declares is true.)

The Chinese plate looked very blue,
And wailed, "Oh, dear! What shall we do!
But the gingham dog and the calico cat
Wallowed this way and tumbled that,
Employing every tooth and claw
In the awfullest way you ever saw
And, oh, how the gingham and calico flew!
(Don't fancy I exaggerate
I got my news from the Chinese plate!)

Next morning, where the two had sat
They found no trace of dog or cat;

And some fools think unto this day
That burglars stole that pair away!
But the truth about the cat and pup
Is this: they ate each other up!
(The old Dutch clock it told me so,
And that is how I came to know.

* * *

The following directions are to be used with the poem, "The Duel," found on the preceding page.

Fun and fancy are yours today
As you discover the creative way.
Scraps and glue and the imaginative seed
Are without a doubt all you'll need.
When your animal is completely done
You'll have time for rhyming fun.
With words set about to tell
The ways of this animal you know well.
You might tell the story of its creation
Or even discuss this animal's education.
The idea is yours, so what you'll do
Has been left completely up to you!

SUGGESTED PROJECTS FOR COMPLETION OF LITERATURE BOOKS FOR GIFTED STUDENTS

1. Design a book jacket for your book and write a "blurb" including:
   a. Description of setting or mood
   b. Character sketches
   c. Exciting incidents
   d. Striking aspects of the author's life
   e. Other books by the same author
2. Write an original ending to the story or reverse happy or unhappy endings.
3. Make up and act out a playlet based on your reading.
4. Invent a diary which might have been written by one of the characters.
5. Write a character sketch supporting each detail by reference to the book.
6. Make a diorama of your favorite scene in the book.
7. Pretend your book is to be filmed and:
   a. Select the cast for the leading roles, justifying your choices.
   b. Decide on possible locations for the shooting of various scenes.
   c. Decide which scenes would be suitable or unsuitable for inclusion in a movie and explain why.
   d. Try your hand at writing the script for your favorite part of the book.

* * *

INDIVIDUAL STUDY

Name_____ Topic_____

Subtopics I Plan to Research:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____

Budget Your Own Time

WEEK #1

WEEK #3

WEEK #5

WEEK #2

WEEK #4

WEEK #6

BRAIN TEASER

Who Owns the Zebra?

The facts essential to solving the problem—which can be solved by combining deduction, analysis and sheer persistence—are as follows:

1. There are five houses, each of a different color and inhabited by men of different nationalities, with different pets, drinks, and candy bars.
2. The Englishman lives in the red house.
3. The Spaniard owns the dog.
4. Coffee is drunk in the green house.
5. The Ukranian drinks tea.
6. The green house is immediately to the right (your right) of the ivory house.
7. The Snicker candy bar eater owns snails.
8. Mars candy bars are eaten in the yellow house.
9. Milk is drunk in the middle house.
10. The Norwegian lives in the first house on the left.
11. The man who eats three Muskateer candy bars lives in the house next to the man with the fox.
12. Mars candy bars are eaten in the house next to the house where the horse is kept.
13. The Butterfinger candy bar eater drinks orange juice.
14. The Japanese eats Hershey bars.
15. The Norwegian lives next to the blue house.

NOW, WHO DRINKS WATER??????? AND OWNS THE ZEBRA???????

A MODEL FOR TRAINING TEACHERS OR TO EXPERIENCE THE JOY OF LEARNING

by
Barbara Dunn, Ed.D.
California State College, Los Angeles

In considering a model for educating teachers of classes for gifted children many often-mentioned needs come to mind, to know characteristics and learning needs of gifted children; ways of modifying programs to better meet these needs; casual factors and the importance of early learning. But less often mentioned, is a need this writer considers to be just as pressing and yet seldom met. This involves the need to aid the teacher in experiencing the type of education one wishes that person to recreate for the gifted child. In the literature we often find reference to the idea that if we want a child to be caring, treat him in a caring way; if we want a child to be joyful, treat him with joy; if we want a child to be successful, treat him as a success; If we want a child to be creative, treat him creatively. Wouldn't this then be appropriate for a teacher training program?

Let us consider those characteristics we might find of value in a teacher of the gifted child. We could agree that the person would do well to have a breadth of knowledge, a depth of knowledge in at least one area, a talent to draw upon or a special proficiency in one or more skills. But, in light of the current research on creating learning environments there seem to be other characteristics of even greater import.

If one is to create a powerful learning environment one must have an adequate sense of self, adequate in Combs' sense as persons who see themselves as being liked, wanted, acceptable, able; as persons with dignity and integrity, of worth and importance; an essentially positive view of self. Because gifted children have varied and unknown levels of capability, they must be given every opportunity to move as far out of the teacher's range of knowledge as possible. They must not be limited to the teacher's limitations. This movement could present a threat to the teacher who has a need for defense of self or who has inadequate development of self. Fromm (1959) feels that one can overcome insecurity, the compulsion to conform, and can develop a value for uniqueness only if there is an awareness of self as the center or originator of one's actions.

The gifted student, who often moves at the highest levels of learning and power of thought, needs practice in exercising choice, in the use of freedom and in dealing with responsibility. To facilitate growth in these areas a teacher must be growing in her concepts of choice,, freedom and responsibility.

The literature of self concept and creativity, (Combs, 1962; La Benne and Greene, 1969; Purkey, 1970), cite certain conditions or attitudes that encourage high levels of development. Openness, curiosity, awareness, acceptance are but a few of these. To establish conditions which will support optimal growth the teacher must possess these attitudes.

The gifted student must be more than a high academic achiever. Our society has great need for caring, trusting, compassionate human beings. Each person must be able to find the joy of learning in situations beyond the formal educational experience. If Maslow's thesis (Combs, 1962) is sound, then these characteristics must also be valued for the person who will guide the gifted student. Our teacher **must** experience caring, compassion, trust and joyful learning.

With the knowledge we have today it is possible to establish teacher training programs that can support growth in all of these vital areas.

First, we must make sure that the environment of our classes for training teachers is supporting those characteristics mentioned. A course that is rigidly structured with teacher imposed objectives and objective evaluation procedures cannot give our teachers practice in choice, freedom and responsibility. It can only give them an additional pattern to restrict these characteristics. A class in which the professor plays the role of dispenser of knowledge cannot give the training teacher experience with awareness, curiosity, and openness; it can only result in another model of inadequate human relations.

There are available to us many ideas, techniques, and exciting materials and activities that can aid us in releasing the kinds of creative awareness and attitudes toward growth we wish to foster. Much work has begun in these areas. (Boocock, S. and Schild, E., 1968; Brown, G., 1971; Gorman, 1969; Michael, 1968). Implementation is now possible in our classrooms. These techniques and materials must be given to our teachers of gifted children. But, we cannot expect them to use these ideas unless they have experienced them, unless we who train teachers use them. If we would have teachers use the open structure for their classroom, they must themselves be taught in an open classroom. If we would have our teachers relate to their students as real, growing, changing people they must be taught by real, growing, changing people.

Of course, it is important that the training teacher be involved during her training with gifted children, that she familiarize herself with the demands of these learners' uniqueness. But it is equally important that she, as a learner, experience all those attitudes we will ask her to nurture. Her experience must put her in touch with the joy of learning.

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PARAMETERS: EDUCATING TEACHERS OF THE GIFTED

Dr. Peter G. Fast
Fresno State College

Phases	Components	Levels of Implementation
EXPLORATORY	Multibase Education (Humanities, social/natural sciences, arts, technical and applied fields)	First four years (college or university)
SPECIALIZED PREPARATION	Personal Fulfillment Professional Preparation Practical Education	Fifth year (college or university
CONTINUOUS EDUCATION	Inservice Programs Advanced Credentials/Degrees State/National Institutes, Conferences Basic/Applied Research Postdoctoral Studies Professional	Sixth year— (continuous professional involvement and growth)

SPECIALIZED PREPARATION

Personal Fulfillment

Genuine empathy for gifted/creative persons
Exceptional mental and physical health
Commitment toward and enjoyment of teaching
Ongoing curiosity regarding gifted/education
Individual flexibility, firmness, innovativeness
Interaction with students, colleagues, parents, others
Productive orientation
Constructive self-actualization

Professional Preparation

Survey of special education
Identification/assessment of the gifted
Differentiated needs of gifted and creative
Learning theory/individualized learning styles
Administrative arrangements for gifted
Curricular provisions and adaptations
Individual/group instructional modes
Intellectual abilities/creativity
Creative problem solving, inquiry, thinking
Talent and leadership development
Alienation, underachievement, motivation
Personal and vocational guidance
Current theory, research, practice

Practical Education

Visiting exemplary gifted programs/schools
Observing master demonstrations
Teaching in regular/gifted classrooms
Cataloging individual levels/rates of performance, capabilities, needs, concerns
Promoting responsive learning environments
Integrating theory and practice
Developing instructional approaches
Building constructive life styles/philosophies
Utilizing school and community resources
Diagnosing learning disabilities
Contributing experiences, ideas, solutions

CONTINUOUS EDUCATION

1. Pursuance of advanced degrees/credentials
2. Preparation of specialists (gifted education)
3. Resolution of controversial issues, problems
4. Initiation and completion of needed research
5. Development of innovative teaching procedures, curricular models
6. Dissemination of emerging programs, research, knowledge and ideas
7. Refinement of creativity; its assessment, nature and nuture
8. Expanding involvement of laity, resource individuals with gifted education
9. Personal input toward local, state, federal projects, legislation, changes
10. Clarification and validation of improved teacher education models

THE G-SOME SYSTEM AS A MODEL FOR TRAINING TEACHERS OF THE GIFTED

by Alfred L. Lazar
California State College, Long Beach

A critical review of the literature on the training of teachers for working with gifted youngsters reveals a lack of any specific training models. The purpose of my presentation today will be to present a three-stage model called the G-SOME System approach for the training of teachers per se, but especially for those teaching the gifted and creative child.

The G-SOME system is a sequenced logic system that serves as a framework for assisting the teacher in critical decision making process. It assumes that the teacher's role in the classroom or learning situation is that of a manager of learning using a scientific approach. In using this scientific approach toward learning and instruction, it is further assumed that the role of the teacher as a manager of learning is to control and manipulate variables in the learning situation and utilizing feedback in making eveluation as to the extent that goals and objectives have been achieved.

G-SOME MODEL

G—**General Variables.** These involve understanding the value complex of the community, legal basis for education as found in codes and laws, family attitudes toward education, and a host of other variables that the teacher needs to know and understand in planning and developing a curriculum.

S—**Survey Variables.** This means that the teacher has training in the use of formal testing, can evaluate and make effective use of data provided by psychologist and others. Before one writes objectives or programs, one needs to ascertain just where is the gifted child both in terms of his effective and cognitive development. Thus, the first task of a scientific teacher is to survey the student for his strengths and weaknesses.

O—**Objectives for Instruction.** Here objectives are written in behavorial terms in the cognitive, affective, and motor domains as required. Included are immediate, short and long range learning plans.

M—**Multi Media Variables.** Here the teacher needs experience in determining which is the student's best modality for learning, i.e. tactile, visual, auditory, etc. Will group or individualized delivery systems be used in controlling the rate of learning based upon the known or estimated rate of learning based upon previous baseline data. Finally, what specific learning theories are involved in planning and building the learning situation.

E—**Evaluation Variables.** Here there are three types of evaluation situations that need to be developed if both the teacher and students are to work in a concerted effort. First, both the teacher and students must develop self-evaluation skills, and this is to be followed by mutual evaluation. Finally there can be evaluations by significant others to help authenticate the readings of the other two. Evaluation and feedback loops serve as an accountability system to assist in determining why certain criterion measures are not met, or else when it is appropriate to move to the next objective.

This brief summary of my talk can hardly give justice to the complex nature of systems approach to learning, but it can serve to provide the reader with an overview. The G-SOME system is a question model organized into five major sequenced components which allow the teacher to constantly assess the learning situation. It is to some extent a clinical model that helps the teacher diagnosis learning needs and construct realistic curriculum and learning objectives that will respect the unique learning characteristics of the gifted child. It can also serve as a guide as to the kinds of training activities future teachers need. Finally, the G-SOME systems model can help especially with the gifted underachiever.

FIGURE 1. *G variables. Some critical factors that infuence the nature and the degree of instructional effectiveness and pupil-teacher interaction during the learning situation.*

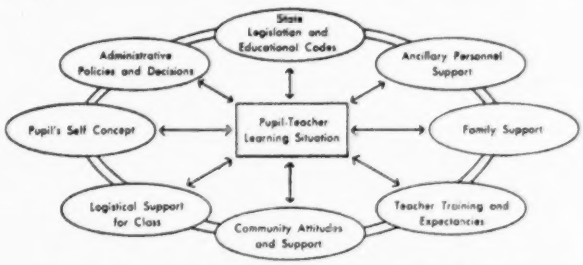

Figure 1 provides an overview of the five sequenced component G-SOME teaching model. A detailed breakdown indicating the content, process, and structure of the model, with some suggested questions for teachers of the gifted is illustrated in Figure 2. Next Page

References

Lazar, Alfred L. "Logistical Control In Special Education." **The Pointer,** 13 (Spring, 1969) 49-52.

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Figure 2.

TAXONOMY OF SEQUENCED TASKS

G—Variables
Add those items essential to the development of a data bank for program and community understanding.

S—Variables
Survey of student(s) needs, strengths, & deficits.

Formal tests results on intellectual, social, emotional development, including creativity. Informal assessment and data gathering by teachers from other significant sources.

Development of individual profile as to academic skills and knowledges, interests and unique characteristics.

Development of group or class matrix to ascertain variability.

Ascertain administrative & Logistical requirements and estimates.

Placement and service support plans are tentatively developed.

O—Variables
Consideration to both behavorial and non-behavorial objectives.

Daily learning plans are formulated in terms of:
- cognitive objectives
- affective objectives
- motoric objectives.

Estimates of how, what, who, when & where regarding learning tactics are made.

Estimates of objectives in terms of time, space, scope & sequence are made. Projects for weekly and long range plans.

The works of Bloom, Piaget, Gagne, Guilford, and Torrance are given consideration, as well as others on gifted and creativity.

Divergent or Convergent thinking stressed. Which, why, when.

M—Multi Media Variables
Determine learner's best imput modality:
- a. auditory
- b. visual
- c. haptic
- d. tactical
- e. other

Motivational imputs:
- a. extrinsic
- b. intrinsic

Methods of delivery:
- a. individualized
- b. seminar
- c. small group
- d. total class
- e. teaching machines
- f. teacher aide
- h. teacher
- i. significant other

Materials to be used:
- a. book, etc.
- b. film strips
- c. video tape and recorder
- d. teaching machines
- e. other

Mode and rate of learning required, including learning theor(ies)
- a. s-r
- b. operant
- c. chaining
- d. verbal
- e. discrimination
- f. problem solving

E—Evaluation Variables
Evaluation based upon objectives:
- a. self-evaluation:
  - pupil(s)
  - teacher
- b. outside source or significant other
- c. criterion as to objective success.

If objective met, go to next one, if not check components using feedback loops to allow for changes to enhance success to criterian in next effort.

Workshops

Workshops	Sessions	Workshop Title
1 Chairman	I and II (2-hour Session) Joyce Sonntag	"Meet the Authors" of the New Exemplary Curriculum Guides for the Gifted Grades K-12
2 Chairman	I and II (2-hour Session) Debbie Osen	"Adding Another String to His Bow"—Developing Leadership Ability in the Gifted Grades 4-8
3 Chairman	I and II (2-hour Session) Ivy Beaubouef	"Creative Productive Thinking." Report on a Title III project and suggested environments to encourage creativity Grades K-8
4 Chairman	I and II (2-hour Session) Russel Orpet	"Piaget's Approach to the Assessment of Intelligence." Summary and Film Demonstration Grades 1-12
5 Chairman	I The Lyceum of Monterey Peninsula	"Gifted Students Speak Out." Elementary Students from Monterey Peninsula Schools and Lyceum discuss their programs Grades 4-6
6 Chairman	I and III Linda Schwartz	"A Creative Curriculum." Successful practices in Writing, Social Science, Art and Individualized Instruction Grades 4-6
7 Co-Chairman	I and III Jose Martinez, C. Towner **Grades K-12**	"Procedures and Programs for Gifted Minority Students." Long Beach City Elementary and High School Programs Grades K-12
8 Chairman	I and III David Straus	"Tools for Change—An Approach to Process Education." Berkeley's program to develop the process and strategies to solve problems Grades 6-12
9 Co-Chairman	I and III Al Lazar, Peter Fast	"Models for Teacher Education Training Teachers for the Gifted" Grades K-12
10 Co-Chairman	I and III Rosemarie Moore, Ruthe Lundy	"Highly Gifted Students—Can We Describe Them?" Palo Alto's Pilot Program for the Highly Gifted Grades K-12
11 Chairman	I and II Paul D. Plowman	"Criterion—Referenced Teaching of Higher Cognitive and Creative Skills" Behavioral Objectives for Gifted Students Grades K-12
12 Chairman	I and III George Sterling	"The Process and Content of a River Ecology Study" Students from Napa High School show their film and discussion covers development of course of study Grades 9-12
13 Co-Chairman	II and III Bonnie Deming, Charlotte Morrison	"Sum 'R Good—Sum 'R Better" San Diego's Summer School Classrooms "visited" through slides: how to promote affective development Grades 3-6

Workshops

14 Co-Chairman	II and III Gerald Stanley, Jeanne Delp	"How to Communicate with the California Legislature." Assemblyman Ken Cory will make an address and answer questions Grades K-12
15 Chairman	II and III Virginia P. Ryder	"Docent Program—Museum and Nature Trails." Elementary Science Resource Center. San Francisco's program utilizing Community Resources. Grades K-6
16 Chairman	II and III Elizabeth Pellett	"Values in the Social Sciences—Caught or Taught?" How values are caught and the process whereby students may develop personal commitments Grades K-12
17 Co-Chairman	II and III Elizabeth Bennett, Rheta Jogo	"Language Linguistics and Culture—An Independent Study Program." Berkeley's pupil and teacher designed independent study program in English, Foreign Language and History. Grades 7-14
18 Chairman	II and III William B. Cummings	"Identifying and Teaching Culturally Disadvantaged Gifted Children." San Francisco's program using means other than standardized test data. Grades 1-6
19 Chairman	II and III Lewis Fenton	"Community Response in Support of Gifted Students." A description of the Lyceum of Monterey Peninsula's program for gifted students. Grades K12
20 Chairman	II and III Mary Meeker	"The Milk of Human Kindness Is Not Sufficient" The California Framework of Curriculum for Gifted Minors. Grades K12
21 Chairman	II and III John Gowan	"The Creative Development of the Gifted Individual." Grades K-12
22 Chairman	I Irving S. Sato	"One Gifted, Two Gifted, Three Gifted." Ways in which schools with small numbers of gifted can provide qualitatively different learning opportunities Grades K-12
23 Chairman	III Cathy Kennard	Seminar—Talk to Parents of the Gifted Association Members. Members of the San Fernando Valley Gifttd Child Association answer your questions Grades 9-12
24 Chairman	II The Lyceum of Monterey Peninsula	"Gifted Students Speak Out." Junior High Students from Monterey Peninsula schools and Lyceum discuss their programs Grades 7-9
25 Chairman	I Jeanne Delp	"Initiating a Program for the Gifted." How to start a program for gifted students in your district Grades K-12
26 Chairman	III The Lyceum of Monterey Peninsula	"Gifted Students Speak Out." High School Students from Monterey Peninsula Schools and tre Lyceum discuss their programs Gifted Child Association answer your questions
27 Co-Chairman	III Paul D. Plowman, Irving S. Sato	**Seminar**—Dialogue with our State Consultants. A chance to get your questions answered
28 Chairman	III Richard Lindbloom with Joan Vasche	"How can you make use of the regular case studies for the benefit of each gifted student in your classroom?"
29 Chairman	I and II Bruce DeVries	"Individualized Programs for the Gifted." Practical methods and procedures of using individualized programs in the classroom Grades 3-6

CALIFORNIA ASSOCIATION FOR THE GIFTED

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Ninth Annual Conference
California Association for the Gifted

"The Challenge of Accountability in Programs for the Gifted"

Place: Monterey Peninsula College, Monterey, Calif.

Dates: Friday and Saturday, February 26-27, 1971.

Program

Friday, February 26, 1971

3:00- 7:00 p.m.—Registration—Monterey Peninsula College Theater Lobby.

8:00- 9:00 p.m.—General Session—Theater.
Dr. Ernest House, Director, Illinois.
"The Sonscience of Educational Evaluation."

Saturday, February 27, 1971

8:00-11:00 a.m.—Registration—Gymnasium Lobby.

8:15- 9:00 a.m.—General Membership Meeting—Gymnasium.

9:00-10:00 a.m.—General Session—Gymnasium.
Dr. Ernest House, Director, Illinois.
Gifted Program Evaluation.
"Accountability in Programs for the Gifted."

10:00-10:30 a.m.—Coffee.

10:30-11:30 a.m.—Workshops—Session I.
(See descriptions next page)

11:45-12:45 p.m.—Workshops—Session II.
(See descriptions next page)

12:45- 2:00 p.m.—Luncheon—Student Union.

2:15- 3:15 p.m.—Workshops—Session III and Seminars.
(See descriptions next page)

All Day— Displays and exhibits